

FORM NP

NEW PROGRAM PROPOSAL FORM

Sponsoring Institution: Three Rivers Community College

Program Title: Fire Science

Degree/Certificate: Associate of Applied Science (AAS)
One-Year Certificate and Short-Term Certificate

CIP Code: 43.0203

Implementation Date: Fall 2010

Cooperative Partners: Local Fire Departments

Expected Date of First Graduation: May 2012

AUTHORIZATION

Dr. Wesley Payne, Vice President for Learning

| Name/Title of Institutional Officer | Signature | Date |
|-------------------------------------|-----------|------|
|-------------------------------------|-----------|------|

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(Attached are the; Summary of Need, Duplication, Collaboration, and Program Structure.

SUMMARY OF NEED

A. Student Demand

The need for trained fire fighters is expected to increase substantially in the service area of Three Rivers Community College (TRCC) in the immediate future. Discussion with the TRCC Admissions Office, student advisors, local fire departments and the Career Education and Workforce Development Office reveals there is a need for training of existing and future fire fighters. The enrollment for the first five years of the program for full- and part-time students is estimated as follows:

| | | |
|--------|-----------|----|
| Year 1 | 2010-2011 | 12 |
| Year 2 | 2011-2012 | 16 |
| Year 3 | 2012-2013 | 20 |
| Year 4 | 2013-2014 | 20 |
| Year 5 | 2014-2015 | 20 |

The size and scope of the program will initially be limited due to the availability of instructional equipment in the laboratory components of some classes and the availability of trained faculty. For enrollment projections, see FORM SE attached.

B. Market Demand

Needs analysis was conducted with several local fire departments both fulltime and volunteer. All of the departments identified fire science as a high-demand occupation. Many of the departments require their employees to have or be in the process of receiving their Fire Fighter I & II certification which is part of this degree at TRCC.

TRCC faculty also conducted a Needs Assessment in the service area in late 2009 and early 2010 to assess the demand for fire fighters. The results revealed a significant number of potential students interested in an AAS degree and certificate in Fire Science. Additionally, the Needs Assessment identified a demand by local employers for workers with advanced technical skills in fire fighting. The demand in this degree is only expected to grow due to retirement of fire fighters.

C. Societal Needs

According to the Department of Fire Safety, one of the critical needs is providing training opportunities locally for the fire fighters.

This degree also represents an affordable option for preparation for employment for residents of the service area. The tuition for a degree/certificate at Three Rivers Community

College is relatively inexpensive and provides an affordable option to leaving the area to attend another institution. In addition, the program provides citizens with the technical skills to compete in today's global marketplace, to advance career opportunities, and provide a better standard of living for their families.

D. Methodology for Identification of Market and Societal Need

Market demand and societal information was obtained from a variety of sources. Specific sources include, but are not limited to the following:

- Internet research on labor statistics in January 2009:
 - ✓ Bureau for Labor Statistics
 - ✓ Department of Economic Development
 - ✓ Missouri Department of Conservation – Online Recruitment
- Consensus of Three Rivers Community College Career Education Advisory Committees
- Needs assessment conducted by TRCC Staff (2009- 2010)
- Literature review of trade journals
- Site visits with area fire departments

DUPLICATION AND COLLABORATION

Various programs similar to the one proposed are offered by other community colleges throughout the state; these program offerings however, are not within the TRCC service area and do not create duplication of effort. Neither private career schools nor area vocational-technical schools in the region offer programming of this nature.

This program in fire science is designed initially to be offered only on the college's home campus; as a result, no collaborative effort is required at this time. Should the need in the future point to offering the program at off-campus sites as well, collaboration with other education partners will be necessary.

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PROGRAM STRUCTURE

The Fire Science program was developed using inputs from several sources. The faculty from the Health and Human Services Division was the primary sources. Additional input was received from the Three Rivers Community College Career Education Advisory

Committee. Programs already in place at other colleges were reviewed as was the literature related to competencies and job responsibilities expected of graduates.

The degree and certificate programs were approved by Three Rivers Community College Curriculum Committee March 29, 2010.

A. Total credits required for graduation:

| | |
|-------------------------------|--------------------------|
| AAS Degree: | 67 Semester Hours |
| One Year Certificate | 30 Semester Hours |
| Short-Term Certificate | 21 Semester Hours |

B. Residency requirements: **15 Semester Hours**

At least 15 semester hours must be completed at Three Rivers Community College.

C. Courses and credits required for general education: **17 Semester Hours**

| | | |
|----------------|--------------------------------------|------------------|
| IST 100 | Computer Literacy | 3 Semester Hours |
| CIVL 106 | Technical Math I | 3 Semester Hours |
| ENGL 111or 105 | College Writing or Technical Writing | 3 Semester Hours |
| SCOM 110 | Public Speaking | 3 Semester Hours |
| GOVT 121 | National & Sate Government | 3 Semester Hours |
| HPER 152 | Fitness Center I | 1 Semester Hour |
| HPER 251 | Fitness Center II | 1 Semester Hour |

D. Courses and credits required for major: **50 Semester Hours**

| | | |
|----------|--------------------------------|-------------------|
| FIRE 115 | Fire Fighter I & II | 10 Semester Hours |
| FIRE 118 | Hazardous Materials/Operations | 3 Semester Hours |
| FIRE 135 | Fire Prevention | 3 Semester Hours |
| FIRE 125 | Incident Command Systems | 2 Semester Hours |
| FIRE 239 | Search & Rescue | 3 Semester Hours |

| | | |
|----------|---|------------------|
| FIRE 215 | Tactics and Strategy | 3 Semester Hours |
| FIRE 217 | Building Construction for Fire Fighters | 3 Semester Hours |
| FIRE 225 | Hydraulics and Water | 3 Semester Hours |
| FIRE 255 | Fire Officer I | 3 Semester Hours |
| FIRE 235 | Fire Detection and Suppression | 3 Semester Hours |
| FIRE 245 | Introduction to Fire Inspections | 3 Semester Hours |
| EMDS 105 | Emergency Medical Services I | 8 Semester Hours |
| | Career Education Elective | 3 Semester Hours |

E. Number of free elective credits remaining: None

F. Requirements for thesis, internship, or other capstone experiences.

G. Unique features

The Fire Science program was approved for start-up funding with general revenue funds and Missouri Department of Elementary and Secondary Education. This new program proposal is therefore being submitted to the Department of Elementary and Secondary Education simultaneously with submission to CBHE.

FORM SE

STUDENT ENROLLMENT PROJECTIONS

| | 2010 –2011 | 2011 – 2012 | 2012 - 2013 | 2013 – 2014 | 2014 - 2015 |
|-------------|------------|-------------|-------------|-------------|-------------|
| YEAR | 1 | 2 | 3 | 4 | 5 |
| Full-time | 8 | 10 | 12 | 12 | 12 |
| Part-time | 4 | 6 | 8 | 8 | 8 |
| Total | 12 | 16 | 20 | 20 | 20 |

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PROGRAM CHARACTERISTICS AND PERFORMANCE GOALS

Institution Name: Three Rivers Community College

Program Name: Fire Science

Date: March 31, 2010

Student Preparation

- Any special admissions procedures or student qualifications required for this program, which exceed regular university admissions, standards, e.g., ACT score, completion of core curriculum, portfolio, personal interview, etc. Please note if no special preparation will be required.

No special preparation will be required, however students will have to have a health/fitness exam. Admissions requirements do not exceed regular admission requirements.

- Characteristics of a specific population to be served, if applicable.

It is the policy of Three Rivers Community College not to discriminate on the basis of sex, race, religion, age, national origin, or disability in its educational programs, activities, or employment. All populations will be served.

Faculty Characteristics

- Any special requirements (degree status, training, etc.) for assignment of teaching for this degree/certificate.

Normal career and technical education faculty requirements that exist for those teaching in other career and technical education programs will be required. The Department of Fire and Safety provides a list of instructors certified for the fire specific classes. TRCC will select instructors from the approved list where adjunct faculty are used. Individuals must meet the same academic and professional requirements for teaching a given course as would be required to teach the same course on campus.

- Estimated percentage of credit hours that will be assigned to full-time faculty. Please use the term "full-time faculty" (and not FTE) in your descriptions here.

Full-time faculty members will be assigned at least 17 semester credit hours of the AAS degree requirements. It is anticipated that 26% of the program credit hours will be assigned to full-time faculty. In addition, faculty will be encouraged to become members of the Missouri Association of Career and Technical Education.

- Expectations for professional activities, special student contact, teaching/learning innovation

The faculty member will be expected to utilize various distance-learning methodologies such as Internet-based and interactive television (ITV) delivery methods.

Enrollment Projections

- Student FTE majoring in program by the end of five years.

It is anticipated to have 20 student FTE majoring in the program by the end of five years.

- Percent of full-time and part-time enrollment by the end of five years.

Full-time: 15%

Part-time: 85%

Student and Program Outcomes

- Number of graduates per annum at three and five years after implementation.

It is anticipated to have fifteen graduates at three years and twenty at five years.

- Special skills specific to the program.

None

- Proportion of students who will achieve licensing, certification, or registration.

All students will be providing the opportunity to sit for the National Fire Fighter I and II certification test.

- Performance on national and/or local assessments, e.g., percent of students scoring above the 50th percentile on normed tests; percent of students achieving minimal cut-scores on criterion-referenced tests. Include expected results on assessments of general education and on exit assessments in a particular discipline as well as the name of any nationally recognized assessments used.

It is anticipated that the program graduates will score at or above the 50th percentile on the CAAP test administered during the last semester prior to graduation.

It is anticipated that 95% of the program completers will master at least 80% of the state-identified, industry-validated, and TRCC-adapted essential skills for the fire science program.

- Placement rates in related fields, in other fields, unemployed.

It is anticipated that 100 % of the graduates from the program will be employed in related fields.

- Transfer rates, continuous study.

It is anticipated that 10% will transfer to a four-year institution for further studies. The degree program is not intended for transfer; however, every effort will be made to develop articulation agreements with four-year university partners.

Program Accreditation

- Institutional plans for accreditation, if applicable, including accrediting agency and timeline. If there are no plans to seek specialized accreditation, please provide reasons.

The Missouri Fire and Safety Department.

Alumni and Employer Survey

- Expected satisfaction rates for alumni, including timing and method of surveys.

The college conducts a follow-up survey of graduates 180 days after graduation via the placement office. It is estimated that 80% of the students surveyed will indicate that they are satisfied with the program and feel that they are well prepared for employment in the environmental/occupational safety and health field.

- Expected satisfaction rates for employers, including timing and method of surveys.

Employers will be contacted, by phone and/or written survey, as graduates complete the program and begin implementing their new skills in the workplace. It is anticipated that 85-90% of the businesses employing our graduates will be satisfied with the technical skills possessed and demonstrated by our graduates.

Additionally, informal surveys will be conducted with employers via the Advisory Committee Meetings, internship visits, career fairs, and various employment councils in the area.

Institutional Characteristics

Three Rivers Community College is ideally suited to offering this program. The present faculty has been teaching various subjects related to fire science for a number of years and they are very experienced in their areas of expertise. They have established an excellent reputation with the local business and industry community in the area. Initial response from the public, parents, potential students, and local business leaders has been extremely positive.

Other Relevant Information

General oversight for this program will rest with the Director of Career Education and Workforce Development and the Division Chair for Health and Human Services. A program coordinator with teaching responsibilities in the program will be designated to manage the day-to-day operations, program success, and quality control.

Form FP - FINANCIAL PROJECTIONS (deleted)

Fire Science
Associate of Applied Science Degree

Purpose: Career and Technical Education. This program focuses on providing learning opportunities which introduce develop and reinforce academic and occupational knowledge, skills, and attitudes required for job acquisition, retention and advancement. This degree option prepares students for entry-level employment and a foundation for future advancement in the fire fighting, fire inspection, fire instructor and fire investigation fields.

FIRST YEAR: Fall Semester

| | | | Hours |
|--------------------|------------|---|-----------|
| FIRE | 115 | Firefighter I and II² | 10 |
| FIRE | 118 | Hazardous Materials Awareness & Operations² | 3 |
| FIRE | 125 | Incident Command Systems | 2 |
| HPER | 152 | Fitness Center I | 1 |
| TOTAL HOURS | | | 16 |

Spring Semester

| | | | Hours |
|--------------------|------------|--|-----------|
| EMDS | 105 | Emergency Medical Services I | 8 |
| HPER | 251 | Fitness Center II | 1 |
| FIRE | 135 | Fire Prevention | 3 |
| | | Career Education Elective (Any BMGT, CRJU, EOSH, IST, or other course approved by the program advisor can be used as an elective) | 3 |
| IST | 100 | Computer Literacy | 3 |
| TOTAL HOURS | | | 18 |

SECOND YEAR Fall Semester

| | | | Hours |
|--------------------|--|--|-----------|
| CIVL | 106 ⁽¹⁾ | Technical Math I - OR – MATH153 (or higher) | 3 |
| ENGL ENGL | 105 ⁽¹⁾ 111 ⁽¹⁾ | Technical Writing – OR- College Writing | 3 |
| FIRE | 215 | Tactics and Strategy | 3 |
| FIRE | 217 | Building Construction for Fire Fighters | 3 |
| FIRE | 225 | Hydraulics and Water | 3 |
| TOTAL HOURS | | | 15 |

Spring Semester

| | | | Hours |
|--------------------|------------|--|-----------|
| GOVT | 121 | National and State Government | 3 |
| SCOM | 110 | Public Speaking | 3 |
| FIRE | 235 | Fire Detection & Suppression | 3 |
| FIRE | 239 | Search & Rescue (Land, water & structural collapse) | 3 |
| FIRE | 245 | Intro to Fire Inspections | 3 |
| FIRE | 255 | Fire Officer I² | 3 |
| TOTAL HOURS | | | 18 |

¹These classes have placement or prerequisite requirements.

²These courses require skill and written examination by the Missouri Division of Fire Safety to obtain state certification. Students must meet all state requirements prior to taking certification tests.

**Fire Science
One-Year Certificate**

Purpose: Career-Technical. The program focuses on providing students with skills in fire fighting and emergency medical services and prepares students for entry-level employment and a foundation for future advancement in the fire fighting field.

Curriculum

| | | | |
|-------------|------------|---|-----------|
| FIRE | 115 | Firefighter I and II | 10 |
| FIRE | 118 | Hazardous Materials Awareness and Operations | 3 |
| EMDS | 105 | Emergency Medical Services I | 8 |
| FIRE | 135 | Fire Prevention | 3 |
| | | Career Education Elective (Any BMGT, CRJU, EOSH, IST, or other course approved by the program advisor can be used as an elective) | 3 |
| FIRE | 235 | Fire Suppression and Detection | 3 |
| | | TOTAL HOURS | 30 |

**Fire Science
Short-Term Certificate**

Purpose: Career-Technical. The program focuses on providing students with skills in fire fighting and emergency medical services and prepares students for entry-level employment and a foundation for future advancement in the fire fighting field.

Curriculum

| | | | |
|-------------|------------|---|-----------|
| FIRE | 115 | Firefighter I and II | 10 |
| FIRE | 118 | Hazardous Materials Awareness and Operations | 3 |
| EMDS | 105 | Emergency Medical Services I | 8 |
| | | TOTAL HOURS | 21 |