



**COWLEY COLLEGE
& Area Vocational Technical School**

COURSE PROCEDURE FOR

**Firefighter Safety and Survival
FIR 5505 3 Credit Hours**

Student Level:

This course is open to students on the college level in either the Freshman or Sophomore year.

Catalog Description:

FIR 5505 – Firefighter Safety and Survival (3 hrs)

This course is designed to provide information on how to reduce injuries and fatalities in the fire service. The course prepares students to create positive outcomes from incidents and promote a safety culture in their fire department. Upon completion of the course, the student will develop competencies to increase understanding and skills in promoting a culture of safety, enforcing accountability, developing fitness standards, providing emotional support, eliminating unsafe acts, and applying risk management techniques.

Prerequisites:

FIR 5501 - Firefighter I

Controlling Purpose:

This course is designed to provide information on how to reduce injuries and fatalities in the fire service. The course prepares students to create positive outcomes from incidents and promote a safety culture in their fire department.

Learner Outcomes:

Upon completion of the course, the student will develop competencies to increase understanding and skills in promoting a culture of safety, enforcing accountability, developing fitness standards, providing emotional support, eliminating unsafe acts, and applying risk management techniques.

Units Outcomes and Clock Hours of Instruction for Core Curriculum:

The following outline defines the minimum core content not including the final examination period. Instructors may add other material as time allows.

Evaluation Key:

A = All major and minor goals have been achieved and the achievement level is considerably above the minimum required for doing more advanced work in the same field.

- B = All major goals have been achieved, but the student has failed to achieve some of the less important goals. However, the student has progressed to the point where the goals of work at the next level can be easily achieved.
- C = All major goals have been achieved, but many of the minor goals have not been achieved. In this grade range, the minimum level of proficiency represents a person who has achieved the major goals to the minimum amount of preparation necessary for taking more advanced work in the same field, but without any major handicap of inadequacy in his background.
- D = A few of the major goals have been achieved, but the student’s achievement is so limited that he is not well prepared to work at a more advanced level in the same field.
- F = Failing, will be computed in GPA and hours attempted.
- N = No instruction or training in this area.

UNIT 1: DEFINING A CULTURAL CHANGE

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Define culture.
						Discuss the need for cultural change in the fire service relating to safety.
						Discuss the aspects of a safety culture within fire and emergency services.
						Discuss the gaps between a safety culture and the existing culture of emergency services.
						Discuss why change occurs in an organization.
						List examples of how an organization can use change to its advantage.
						List some of the reasons people resist change, and give examples in fire and emergency services.
						List examples of other industries that have used leadership, management, and supervision to develop components of a safety culture.
						Discuss ways to use the successes of other industries as a catalyst for “advocating” a safety culture within fire and emergency services.

UNIT 2 : ENHANCING ACCOUNTABILITY

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies:
						Define personal and organizational accountability and list their advantages.
						Discuss ways that accountability can affect health and safety within fire and emergency services.
						Explain the process of using NFPA 1500 to improve the accountability related to

						the health and safety of an organization.
						Discuss implementing the combination of accountability and no-fault management.
						Discuss the need to create health and safety parameters for organizational accountability.

UNIT 3: APPLYING RISK MANAGEMENT TECHNIQUES

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Define risk management and why it is an important component of incident management.
						Describe a risk–benefit analysis and its application to emergency services.
						List the six steps of risk management.
						Explain the four strategies to deal with risk.
						Apply the U.S. Coast Guard’s risk management model to emergency services.
						Identify the features of recognition-primed decision making (RPD).
						List the five safety features of the incident management model.
						Explain the importance of risk management in the incident action plan (IAP).
						Describe the Occupational Safety and Health Administration’s (OSHA’s) “two-in, two-out” rule and its effect on rapid intervention.
						Identify risk management practices at the strategic, tactical, and task levels.
						Explain the components of effective communication from the aviation industry.

UNIT 4: ELIMINATING UNSAFE ACTS

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Explain empowerment and how it relates to the fireground.
						Define what constitutes an unsafe act.
						List some examples of energy conversion and how they cause injuries.
						List some of the perceived problems with using personal protective equipment (PPE).
						List examples for each of the four categories of unsafe acts.
						List examples of using education, engineering, environment, and enforcement to prevent injuries.
						Describe the differences between training fires and real fires and why it’s important to understand them.
						Describe ways to address a safety concern with your supervisor.
						Describe crew resource management and its application to a fireground situation.
						Explain the difference between “bolt-on” safety and “built-in” safety.
						List the four components of human interaction necessary to institute crew resource management.

UNIT 5: IMPLEMENTING TRAINING AND CERTIFICATION STANDARDS

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Explain national standards for training, qualifications, and certification.
						Describe the purpose and advantages of credentialing for emergency responders.
						Identify ways to use cognitive learning skills and apply them to an effective psychomotor lesson plan.
						Explain the advantages of the professional qualification standards with regard to safety.
						List the components of a job performance requirement (JPR).
						Describe some of the differences in training requirements between volunteer fire fighters and career fire fighters, as well as state to state, and the effects on safety.
						Describe how the methods of training should be adjusted for the various risk scenarios you may encounter.
						Describe how the Fire and Emergency Services Higher Education (FESHE) model combines training and education into one complete package.
						Explain the advantages of a tiered system of certification and how it could improve safety.

UNIT 6: DEVELOPING MEDICAL AND FITNESS STANDARDS

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Discuss what national medical and physical fitness standards are and their relevance to fire and emergency responders.
						Explain why improving the health, wellness, and fitness of emergency responders is important.
						List the reasons heat dissipation is difficult for fire fighters.
						Explain maximum heart rate and the influences that emergency responses have on it.
						Describe the importance of a responder's ability to use oxygen.
						List the components of a fire fighter's criterion task test, such as the CPAT.
						Describe the difference between wellness and fit for duty.
						Identify the NFPA standards developed for medical and fitness application.
						Explain the application of maintenance versus repairs when discussing health.

UNIT 7: CREATING A RESEARCH AGENDA

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Explain what a data collection system is and how it relates to the 16 initiatives.
						Explain how research and development could be used by emergency services to add another element of safety.
						Describe some of the ways research can benefit risk management.
						List some of the dangers of implementing changes without research.
						Explain the uses of statistical data from incident reports and the importance of accuracy.
						Discuss the differences between qualitative and quantitative data.
						Identify the effective components of a hypothesis, and how it can be used in research.
						Discuss the unique problem of “exposure” as related to injury and line-of-duty death (LODD) data.
						Explain how data collection, analysis, and utilization are used in conjunction with each other.

UNIT 8: UTILIZING AVAILABLE TECHNOLOGY

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Describe how technology can produce higher levels of health and safety.
						Describe some safety improvements that have evolved since the introduction of newer technologies in the fire service.
						Explain the problems that can arise by overrelying on technology.
						Discuss the use of technology in improving the medical monitoring of personnel.
						List the ways technology can be adopted from other industries to reduce injuries and deaths from motor vehicle crashes.
						Explain the theory of using time, distance, and shielding to prevent injuries.
						Discuss the design aspects of simulators that are necessary to improve training systems.
						Describe the application of robotics to improve safety.
						Describe how technology can produce higher levels of health and safety.
						Describe some safety improvements that have evolved since the introduction of newer technologies in the fire service.
						Explain the problems that can arise by overrelying on technology.

UNIT 9: INVESTIGATING FATALITIES, INJURIES, AND NEAR-MISSES

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Explain the reasons for thoroughly investigating fire fighter fatalities, injuries, and near-misses.
						List the two reasons for thorough investigations.
						Describe the causes for injuries and the different injury pattern theories.
						Define hindsight bias and explain how it affects events that have already occurred.
						Explain the advantages of indemnity in the near-miss reporting process.
						Explain the disadvantages of voluntary reporting as it applies to near-miss reporting.
						Describe the process of near-miss reporting, along with the information needed.
						List the five leverage points that can be used when implementing a safety system.
						Explain how sharing information can reduce future injuries and line-of-duty deaths (LODDs).

UNIT 10: BLENDING GRANTS AND SAFETY

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Explain the importance of safe practices as an eligibility requirement for obtaining a grant.
						List the advantages of using community organizations for funding opportunities.
						Name some of the companies that support the fire service on the national level.
						Explain the benefits gained by using research and education grants for fire fighter safety.
						Describe how a program seed grant can benefit an organization.
						Discuss the benefits of using a Staffing for Adequate Fire and Emergency Response (SAFER) grant for volunteer recruitment.
						Illustrate the importance of compiling a list of organizations that are Fire Fighter Life Safety Initiatives (FLSI) 16 registered.
						Explain the relationship between developing effective grant requests and grant priorities.
						Explain the influence of an effective grant narrative in being awarded a grant.

UNIT 11: ESTABLISHING RESOPONSE STANDARDS

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Define a standards developing organization (SDO) and how it can affect safety.
						Explain the importance of terminology in policies and procedures.
						Differentiate between standard operating procedures (SOPs) and standard operating guidelines (SOGs).
						List the seven components of an effective procedure or guideline.
						Explain the differences among the three series of procedures.
						Discuss the assembling, modeling, and adoption of procedures.
						Explain how safety would be improved with national standards.

UNIT 12: EXAMINING RESPONSE TO VIOLENT INCIDENTS

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Explain the differences between terrorism and other violent events such as riots.
						Describe the similarities between standard procedures developed by journalists in dangerous areas and procedures that can be developed for emergency services.
						Explain the importance of establishing better training to be prepared for violent incidents.
						List specific types of violent incidents that should have national standards.
						List the reasons fire and emergency medical services (EMS) uniforms should be professional yet unique.
						Explain the benefits of using Level II staging for violent events.
						Describe a situation in which “staging for a safe scene” is not an option.
						Describe how to best prepare for violent incidents.

UNIT 13: PROVIDING EMOTIONAL SUPPORT

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Compare the effects of physical and psychological stresses of a critical incident on the health and well-being of responders.
						Explain the myths of relying on alcohol or drugs to cure depression.
						List the differences between critical incident stress and post-traumatic stress

						disorder.
						Compare the components of an Alcoholics Anonymous (AA) meeting and a critical incident debriefing.
						Define psychotherapy and explain how it is normally applied to fire and emergency services.
						Explain the differences between demobilizing, defusing, and debriefing in critical incident stress management (CISM).
						List some of the ways individual therapy is offered to emergency responders.
						Explain the features of an effective chaplaincy program.
						Describe how technology influences confidentiality for psychological support.

UNIT 14: ENABLING PUBLIC EDUCATION

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Discuss why public education must receive more resources in order to be championed as a critical fire and life safety program.
						Discuss the difference between prevention and preparation.
						Describe the advantage of using local statistics to develop a fire and life safety program to address a need.
						Describe what resources are available for public education in relation to fire and life safety.
						Explain the purpose of using an action plan to ensure safety during equipment demonstrations.
						Discuss some of the advantages of using interactive learning in fire and life safety education programs.
						List the components of NFPA's Champion Model and how they can be applied to project management while building major programs.
						Describe the link between fire and life safety education and fire fighter safety.
						Explain the three subjects that must be conveyed to the public that have a direct effect on improving fire fighter safety.

UNIT 15: ADVOCATING RESIDENTIAL FIRE SPRINKLERS

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Discuss the importance of code enforcement and home fire sprinklers.
						Cite some examples of how NFPA 13D makes it easy to comply with.
						Discuss some of the arguments against residential sprinklers.

						Explain how most arguments against residential sprinklers are flawed or misleading.
						List some engineering obstacles that must be addressed with a fire protection system installed in a home without access to municipal water.
						Develop logical arguments for residential sprinklers using statistics. Describe the code enforcement duties that directly affect fire fighter safety.
						Explain how fire and life safety education can promote the message and importance of residential fire sprinklers.
						Discuss the advantages of partial systems in addressing immediate safety concerns.

UNIT 16: ENGINEERING SAFETY INTO EQUIPMENT

Outcomes: Upon completion of the unit, the student will be able to successfully demonstrate the ability to:

A	B	C	D	F	N	Specific Competencies
						Discuss why safety should be a primary consideration in the design of apparatus and equipment.
						List some of the groups responsible for originating safety.
						Describe how manufacturers can improve safety, thus better serving the fire service.
						Discuss the advantages of creating a fire-based safety invention clearinghouse.
						Compare the level of safety when designed into equipment versus safety that is retrofitted into it.
						Explain how a cost-benefit analysis can justify investing in safety techniques.

Projects Required:

Varies, refer to syllabus.

Textbook:

Contact Bookstore for current textbook.

Materials/Equipment Required:

None

Attendance Policy:

Students should adhere to the attendance policy outlined by the instructor in the course syllabus.

Grading Policy:

The grading policy will be outlined by the instructor in the course syllabus.

Maximum class size:

Based on classroom occupancy

Course Time Frame:

The U.S. Department of Education, Higher Learning Commission and the Kansas Board of Regents define credit hour and have specific regulations that the college must follow when developing, teaching and assessing the educational aspects of the college. A credit hour is an amount of work represented in intended learning outcomes and verified by evidence of student achievement that is an institutionally-established equivalency that reasonably approximates not less than one hour of classroom or direct faculty instruction and a minimum of two hours of out-of-class student work for approximately fifteen weeks for one semester hour of credit or an equivalent amount of work over a different amount of time. The number of semester hours of credit allowed for each distance education or blended hybrid courses shall be assigned by the college based on the amount of time needed to achieve the same course outcomes in a purely face-to-face format.

Refer to the following policies:

[402.00 Academic Code of Conduct](#)

[263.00 Student Appeal of Course Grades](#)

[403.00 Student Code of Conduct](#)

Disability Services Program:

Cowley College, in recognition of state and federal laws, will accommodate a student with a documented disability. If a student has a disability which may impact work in this class and which requires accommodations, contact the Disability Services Coordinator.