COURSE OUTLINE
Rope Rescue 1

Course Description
FS 141. Rope Rescue I. 1 hour credit. Prerequisite: FS 100 with a C or better or concurrent enrollment in FS 100. This course will enable the student to recognize conditions requiring rope rescue by meeting National Fire Protection Association’s 1006 and 1670 standards pertaining to rope rescue. The student will also learn hazard recognition, equipment use, and techniques necessary to operate at a rope rescue incident.

Required Materials
For complete material(s) information, refer to https://bookstore.butlercc.edu

Butler-Assessed Outcomes
The intention is for the student to be able to
1. Identify protective equipment and procedures for initiating the emergency response system where rope rescue is required.
2. Recognize hazards associated with rope rescue and the procedures to mitigate those hazards.

Learning PACT Skills that will be developed and documented in this course
Through involvement in this course, the student will develop ability in the following PACT skill area(s):

Analytical Thinking Skills
- Critical Thinking – By gathering data during an initial scene size-up and determination of the proper and safest course of action, the student will develop critical and analytical skills.

Technology Skills
- Discipline-specific technology – Through the demonstration of various rope rescue skills and techniques, the student will use discipline-specific technology.

Major Summative Assessment Task(s)
These Butler-assessed Outcome(s) and Learning PACT skill(s) will be demonstrated by
1. Performing a series of skill tasks involving properly identifying and using rope rescue equipment.

Skills or Competencies
These actions are essential to achieve the course outcomes:
1. Proper initial scene size up
2. Safety operations
3. Identification of proper equipment precautions
4. Demonstration of tying knots
5. Demonstration of anchor points
6. Demonstration of belay systems
7. Construction of mechanical advantage systems
8. Demonstration of the use of a litter device

Learning Units
I. Procedures for sizing up existing and potential conditions
   A. Scope, magnitude, and nature of the incident
   B. Location, number, and condition of victims
   C. Risk/benefit analysis
   D. Access to the scene
   E. Environmental factors
   F. Available and necessary resources

II. Procedures for ensuring safety in rope rescue operations
   A. Edge protection
   B. Belays
   C. Critical angles in rope systems
   D. System stresses
   E. Safety checks

III. Procedures for establishing the need for, selecting and placing edge protection
   A. Topographical conditions
   B. Construction features

IV. Procedures for selecting, using, and maintaining rope rescue equipment and rope rescue systems
   A. Emergency situation size up
   B. Safe handling of equipment and ropes

V. Procedures for configuring all knots, bends, or hitches
   A. Bowline
   B. Figure-eight family of knots and bends
   C. Grapevine or double fisherman’s knot
   D. Water knot
   E. Barrel knot

VI. Procedures for selecting anchor points and equipment to construct anchor systems
    A. Single point
    B. Load-sharing multi point
    C. Self-adjusting

VII. Procedures for constructing and using single point anchor systems
     A. Tensionless
     B. Two-bight
     C. Multi-wrap
VIII. Procedures for constructing and using multiple point, load sharing anchor
   A. Non-adjusting
   B. Load distributing

IX. Procedure for selecting, constructing and using a belay system
   A. Separate safety line
   B. Bottom assisted belay

X. Procedures for personnel to escape from jammed or otherwise malfunctioning ascent and descent control devices
   A. Identification of potential problems
   B. Communication methods

XI. Procedures for selecting, constructing and using a lowering system
   A. Rappelling
   B. Lowering systems

XII. Attaching a litter to a rope rescue system
   A. Patient packaging methods
   B. Utilizing a pelvic tie-off

XIII. Utilization of litter attendants
   A. Horizontal transport
   B. Vertical transport

XIV. Selection, construction, and use of rope-based mechanical advantage systems
   A. Benefits of a mechanical advantage system
   B. Moving pulleys
   C. Advantage calculations

XV. Selection, construction, and use of raising systems
   A. 2:1 Systems
   B. 3:1 Systems (z-rig)
   C. 4:1 Systems (tender litter lift)

**Learning Activities**
Activities will include, but not be limited to, class discussion, lectures, course projects, and practical skill evolutions designed to give the student an understanding of the NPFA 1006 and 1670 standards.

**Grade Determination**
The student will be evaluated through assessment tasks, written exams, skills proficiency assessments, and other methods of evaluation at the discretion of the instructor.