 COURSE OUTLINE  
Rope Rescue 2

Course Description
FS 142. Rope Rescue 2. 1 hour credit. Prerequisites: FS 100 and FS 141 both with a C or better or concurrent enrollment in FS 100 and FS 141. 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 additional hazard recognition, equipment use, and techniques necessary to operate at a rope rescue incident. The student will execute site control and management on a scene requiring advanced rope rescue techniques.

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. Identify procedures for carrying out site control and scene management.
3. Recognize hazards associated with rope rescue and the procedures to mitigate these 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 - Through the use of critical and analytical thinking skills, the student will gather data during an initial scene size up and determine the proper and safest course of action.

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

Major Summative Assessment Task(s)
These Butler-assessed Outcome(s) and Learning PACT skill(s) will be demonstrated by
1. Performing a series of cognitive and psychomotor assessments to demonstrate proficiency in advanced rope rescue techniques.
2. Executing site control and management on a scene requiring advanced rope rescue techniques.

Skills or Competencies
These actions are essential to achieve the course outcomes:
1. Demonstrate the construction of load distributing anchor systems.
2. Demonstrate the construction and use of common ascending systems.
3. Demonstrate the construction and use of common lowering systems.
4. Demonstrate the construction and use of high lines in a high-angle environment.
5. Demonstrate proper methods for attending a patient and litter.
6. Demonstrate the use of knot passing techniques.

**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. Belay
   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 highline rope system
A. Critical angles
B. Tensioning the high line
C. Components of a high line
D. Operating a high line
E. Track line

XII. Procedures for selecting, constructing, and using ascending rope systems
A. Tender system
B. Ascending
C. Rope walking systems

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

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

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

XVI. Selection, construction, and use of rope-based mechanical advantage systems
A. Benefits of a mechanical advantage system
B. Knot passing techniques
C. Moving pulleys
D. Advantage calculations
XVII. Selection, construction, and use of raising systems
   A. 2:1 Systems
   B. 3:1 Systems (z-rig)
   C. 4:1 Systems (tender litter lift)
   D. 5:1 Systems
   E. 6:1 Systems
   F. 9:1 Systems

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 NPFA 1006 and 1670.

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.