State of California . The Resources Agency . Department of Parks and Recreation

# ADVANCED TRAILS PROGRAM: Rigging-NPS Yosemite National Park

## October 27-31, 2008

### Training Syllabus

William Penn Mott Jr. Training Center

## TABLE OF CONTENTS



***Mission Statement***
***Training Office***

***The mission of the Training Office is to improve organizational and individual performance through consulting, collaboration, training and development.***

## MOTT TRAINING CENTER STAFF

Tina Williams ..... Department Training Officer
Pat Bost ..... Office Manager
Joanne Danielson ..... Academy Coordinator
Chuck Combs ..... Training Specialist
Dave Galanti ..... Training Specialist
Sara Skinner ..... Training Specialist
Summer Kincaid ..... Training Specialist
Connie Breakfield ..... Cadet Training Officer
Matt Cardinet ..... Cadet Training Officer
Pamela Yaeger ..... Assistant Program Coordinator
Bill Spencer ..... Assistant Program Coordinator
Edith Alhambra ..... Assistant Program Coordinator
Eric Marks ..... Assistant Program Coordinator

*THE MISSION*

*of the California Department of Parks and Recreation is to provide for the health, inspiration and education of the people of California by helping to preserve the state's extraordinary biological diversity, protecting its most valued natural and cultural resources, and creating opportunities for high quality outdoor recreation.*

## FORMAL TRAINING GUIDELINES

Since 1969, California State Parks has been providing a continuously changing number of diverse training programs at its main training facility, the William Penn Mott Jr. Training Center, and other locations including Marconi Conference Center and, most recently, the Two Rivers Training Facility in Sacramento. The Department strives to enhance your learning and job performance with formal training of the highest quality.

Our Department's dedication to training is only one aspect of its commitment to you and to the public. This commitment is costly and represents an important investment in you and your career. You and the Department realize a return on that investment by your positive participation in formal training itself and post training follow-through.

The program you will be participating in is described in this training syllabus, which outlines what you can expect from this training and what is expected of you. This syllabus details what you should do before you leave for training; what to do when you arrive; what you will be doing while in training; and, importantly, what you should be able to do when you return to your work site. Specifically:

1. SYLLABUS: Your copy of this syllabus is an important part of your training experience and should be brought with you to training. Read it before you arrive and review it following the program along with material you received at training.

2. PRE-TRAINING ASSIGNMENTS: Your completion of pre-training assignments is essential to the success of your training. You are responsible for all reading assignments in preparation for classroom sessions. Time will be provided during working hours to accomplish any assignments which involve either individual or group efforts and resources. (Pre-training assignments are listed in the "Program Attendance Checklist" section.)

3. CLOTHING: Uniforms are not required for this program. Special clothing requirements for your program are described in "Training Attendance Requirements" section.

4. COURSE LEADERS: The formal training you will attend is developed and, for the most part, conducted by experienced State Park employees in field and staff positions. Some courses will be conducted by qualified instructors from other agencies and educational institutions. Your course leaders have proven their ability and knowledge in their profession, and provide a level of expertise difficult to match.

5. TRAINING CENTER STAFF: A Training Center staff member has been assigned responsibility for your training group as well as for your training program. That staff member usually serves as a Course Leader as well as a Coordinator. During the program, you may be asked to assist Training Center staff in the logistics of your training program (organizing field trip transportation, supervising classroom breaks, etc.). Center staff will do all within their power to make your training experience pleasant and meaningful.

6. COLLEGE CREDIT: This program is accredited by Monterey Peninsula College (MPC) for lower division credit. If you successfully complete an accredited program, you will receive either a letter grade or a credit/no-credit designation.

7. MPC STUDENT ID: If you have filled out an MPC application before, you have already been issued a student ID number to use in lieu of your SSN on future applications. You can obtain your MPC ID number by going to their secure website and providing your SSN number (no name required) and birthdate.

   https://autobahn.mpc.edu/scripts/autobahn.exe/Execute?Application=WebReg&Program=REPORT-SR-FIND-SSN

   Newcomers to training will still need to provide their SSN on the first MPC application only, after which a student ID number will be assigned and available at the web address above within a few weeks of the program's conclusion.

8. SAFETY/COMFORT REMINDER: The mid Sierras experience substantial precipitation in combined rain and snow annually. We will be training at the beginning of the wet season, so be prepared for adverse weather. Bring rain gear and layered work clothing that will allow you to stay comfortable while working/hiking in inclement conditions. There may be poison oak at this training.

9. CELL PHONES: As a courtesy to your fellow participants and course leaders ensure that your cell phone is turned off during classes. Participants should not be receiving or making cell phone calls during class time. Please limit those calls to your breaks.

## PROGRAM ATTENDANCE CHECKLIST

To assist you in your preparation for formal training the following list is provided:

1. Read and understand the Rigging Syllabus prior to your arrival at training. Meet with your supervisor to review the syllabus and to discuss expectations.

2. Remember to bring the following with you to training:

   - ❑ Program Syllabus.
   - ❑ Personal safety equipment (safety glasses, ear protection, gloves, hardhat, poison oak treatment and sunscreen).
   - ❑ Appropriate work clothing and rain gear with good work boots.
   - ❑ Daypacks to carry any personal items and something to carry your own drinking water in.

3. If you have questions or need help contact the Program Coordinator, Chuck Combs, by telephone at (831) 649-7124 or via e-mail at chuck@parks.ca.gov .

***Warning* – Poison oak, which many people find highly irritating to the skin, is prevalent in this area. Persons who may have sensitivities are advised to take care to not come in contact with this plant while hiking and working, and should take any other preventative measures as may be appropriate.**

**ADVANCED TRAILS PROGRAM: RIGGING – YOSEMITE NATIONAL PARK**
**October 27-31, 2008**

**Monday**
**October 27**

| | | |
|---|---|---|
| 0800-0830 | Registration, Introduction and Class Overview | |
| 0830-0930 | Rigging Mechanics | |
| 0930-1130 | Rigging Applications | |
| 1130-1200 | Mathematics Used in Rigging Calculations | |
| 1200-1230 | Lunch | |
| 1230-1345 | Knot Tying, Cutting Wire Rope, Flemish Eyes and Coiling Wire Rope | |
| 1345-1545 | Rigging Tool Identification and Use | |
| 1545-1700 | Rigging Safety | |

**Tuesday**
**October 28**

| | | |
|---|---|---|
| 0800-0900 | Swedish Ladder Climbing Demonstration | |
| 0900-1200 | Swedish Ladder Climbing Labs (5 groups) | |
| 1200-1230 | Lunch | |
| 1230-1700 | Mechanical Advantage Labs (5 groups) | |

**Wednesday**
**October 29**

| | | |
|---|---|---|
| 0800-1200 | Morning Rotating Labs (4) 4 Hours Each | Group 1 |
| | High Leads | |
| | Skylines with Haul Back and Guy Lines | Group 2 |
| | Skylines with High Leads and Directional's | Group 3 |
| | Tripods with Taught Lines and Anchors | Group 4 |
| 1200-1230 | Lunch | |
| 1230-1700 | Afternoon Rotating Labs (4) 4 Hours Each | |
| | High Leads | Group 2 |
| | Skylines with Haul Back and Guy Lines | Group 1 |
| | Skylines with High Leads and Directional's | Group 4 |
| | Tripods with Taught Lines and Anchors | Group 3 |

**Thursday**
**October 30**

| | | |
|---|---|---|
| 0800-1200 | Morning Rotating Labs (4) 4 Hours Each | Group 3 |
| | High Leads | |
| | Skylines with Haul Back and Guy Lines | Group 4 |
| | Skylines with High Leads and Directional's | Group 1 |
| | Tripods with Taught Lines and Anchors | Group 2 |

**ADVANCED TRAILS PROGRAM: RIGGING – YOSEMITE NATIONAL PARK**
**October 27-31, 2008**

**Thursday**
**October 30 (continute)**

| | | |
|---|---|---|
| 1200-1230 | Lunch | |
| 1230-1700 | Afternoon Rotating Labs (4) 4 Hours Each | |
| | High Leads | Group 4 |
| | Skylines with Haul Back and Guy Lines | Group 3 |
| | Skylines with High Leads and Directional's | Group 2 |
| | Tripods with Taught Lines and Anchors | Group 1 |

**Friday**
**October 31**

| | |
|---|---|
| 0800-1030 | Griphoist Repairs and Maintenance |
| 1030-1100 | Class Review |
| 1100-1130 | Task Hazard Analysis |
| 1130-1200 | Class Evaluations and Departure |

**PROGRAM: ADVANCED TRAILS PROGRAM: RIGGING**

PROGRAM OUTLINE

PROGRAM ORIENTATION AND M.P.C. REGISTRATION ..... 1.0

CLIMBING AND RIGGING LECTURE ..... 7.0
Climbing and Rigging Applications in Trail Projects
Climbing and Rigging Tool and Equipment Identification/Uses
Rigging Applications and Theory
Rigging Demonstrations
Climbing and Rigging Safety
Knot Tying

TREE CLIMBING AND MECHANICAL ADVANTAGE LAB ..... 8.0
Swedish Climbing Ladders
Griphoist Applications, Mechanized Winch Applications

RIGGING LAB ..... 18.0
Rigging Sets, Skyline and Haulback Line Layout, Highleads and Direct Pulls
Using Tripods

CLASS REVIEW AND FINAL EXAM ..... 1.5

PROGRAM EVALUATIONS ..... 0.5

**TOTAL HOURS** ..... **36**

# ADVANCED TRAILS PROGRAM: RIGGING

## PROGRAM ORIENTATION AND MPC REGISTRATION

Purpose: Participants and trainers will become reacquainted with each other and the Program Coordinator. The group will be given information on the logistics of the week's training program at Yosemite NP. Participants will share how they have applied the knowledge gained in the three previous programs at their District and what expectations they have for this program. In addition, the program content will be reviewed and each participant will complete a registration form for Monterey Peninsula College.

Performance Objectives: By the close of the session the participants will

1. Review program content, procedure, and evaluation processes.

2. Share and record expectations with group members.

3. Complete Monterey Peninsula College registration materials.

## RIGGING APPLICATIONS, EQUIPMENT, THEORY AND SAFETY

Purpose: Provide participants with an understanding of the uses of climbing and rigging techniques in trail construction and maintenance projects.

Performance Objectives: By the close of the session the participants will

1. Demonstrates knowledge of the variety of rigging techniques and applications that can be used to help them perform their trail work.

2. Identify and know the specific uses for a wide variety of climbing and rigging tools and equipment.

3. Recognize the basic mechanical theories related to rigging and the range of applications that can be used in rigging sets.

4. Describe the safety issues related to rigging operations and the precautions necessary to insure a safe work site.

5. Tie a number of basic knots used in tree climbing and rigging.

6. Perform routine repairs and maintenance on griphoist.

## TREE CLIMBING LAB

Purpose: To develop the necessary skills to climb trees for the purpose of installing rigging sets.

Performance Objectives: By the close of the session the participant will

1. Identify tree climbing equipment, its use, and what equipment is the most appropriate for their skills and their project.

2. Climb trees using Swedish tree climbing ladders.

3. Explain the role of the ground support crew in assisting the climber.

4. Demonstrate techniques that assist climbers in hanging rigging in trees.

5. Review the safety issues related to tree climbing and the necessary precautions.

## RIGGING LAB

Purpose: Develop the knowledge and skill necessary to design and install a variety of rigging sets.

Performance Objectives: By the close of the session the participants will

1. Practice installing rigging sets such as skylines, haulback lines, high leads, choker rolls and direct pulls.

2. Apply the use of mechanical advantage to safely maximize the capacity of their equipment.

3. Employ winches to perform rigging projects including chain hoist, grip hoist, electric grip hoist, chainsaw winches, and PTO winches.

4. Practice using rigging to move and install large rocks, logs or bridge stringers with minimal resource impacts.

5. Restate the safety risk associated with rigging projects and the necessary precautions.