

# Fall 2021 COURSE SYLLABUS OEPR

## 1600: Basic Search and Rescue

NORTHWEST COLLEGE  
DAY&TIME: Wednesday 3:00pm-4:50pm  
LOCATION: Zoom/Fab Annex 116/Moodle  
CREDITS: 3  
keith.mccallister@nwc.edu

INSTRUCTOR: Keith McCallister  
PHONE: 754-6115  
OFFICE: Fab Annex 117  
OFFICE HOURS: M/W 9:00am-10:00am  
T/TH 1:15pm-2:15pm

### REQUIRED TEXTBOOK

Cooper, Donald. *National Assoc. for Search and Rescue: Fundamentals of Search and Rescue*, Jones and Bartlett, Sudbury, MA.

### COURSE DESCRIPTION

Students gain practical experience in personal preparedness, Search and Rescue equipment and technology, emergency response and packaging victims for transport in all types of settings, and SAR incident management. Includes practice in search techniques and technical rescue. This course is designed for the novice law enforcement officer, search and rescue responder or wilderness medic.

### ADDITIONAL INSTRUCTIONS

This is a classroom (via Zoom Lecture) and field exercise course describing and practicing the fundamentals of search and rescue (SAR). This course is designed for students, law enforcement officers, and wilderness or outdoor enthusiast or program managers who are interested in learning the basics of search and rescue participation and operations/management or are interested in applying for membership in a volunteer search and rescue organization.

The four elements of SAR are: Locate-Access-Stabilize-Transport (L.A.S.T.).

Students will be presented a wide range of information on the philosophy, principles and practices of SAR. These include legal, personal and professional requirements for SAR; use of Incident Command System (ICS) in SAR; basic skills for performing common SAR functions such as field navigation, rope rescue, water rescue, search strategy and tactics; patient care and packaging; safety procedures, teamwork requirements; SAR communications; stress management.

It is common for every class session to include lecture, discussion and practical, hands-on exercises. Required special equipment will be provided on a loan basis.

Outdoor sessions involve physical activities such as walking in rough terrain or climbing steep hills. These sessions carry a small risk of injury associated with common outdoor activities and off-road travel. Each student will need outdoor clothing and footwear appropriate for the season and weather and a day-pack to carry essential items.

### NORTHWEST COLLEGE UNIVERSAL SYLLABUS INFORMATION

<https://nwc.edu/academics/syllabi/universal-syllabus-information>

### Waiver and Medical Form:

Students' will be required to complete a Northwest College Medical Questionnaire and Informed Consent/Liability Form prior to taking part in this course. The Waiver and medical form are accessible at <http://www.smartwaiver.com/v/nwcclass>. You will not be permitted to take part in field portions of class without these forms completed.

## **TOPICS COVERED:**

### **SAR Introduction and Background**

- History—Laws/Legal Agencies & Organizations, Rules & Regulations
- Introduction to the Incident Command System (ICS)
- Introduction to Managing Search Incidents (MSI)
- Introduction to Critical Incident Stress Management (CISM)
- Basic SAR Knowledge and Outcome

Participants will be able to describe relevant terms and concepts plus demonstrate skills in relationship to each of the following:

- Personal Preparedness (Fitness, Survival, Clothing & Equipment, Ready Packs)
- Night Operations
- Wilderness First Aid Concepts
- SAR Navigation Basics (Maps, Compass, GPS, Deduced Reconnoitering)
- Ropes and Knots Basics
- Search Tactics (Hasty & Critical Separation Search)
- Introduction to Man-tracking
- SAR Resources
- Technical Rescue (Rope Rigging, Rappelling, Raising/Lowering Systems, Water Rescue Basics)
- Patient Packaging for SAR Transport
- Managing External Influences
- Introduction to Special Operations (Water Response, Avalanche Response, Aircraft/ELT Search)
- Incident Communications and Documentation
- Helicopter Operations & Safety

### **STUDENT LEARNING OUTCOMES**

These are gleaned directly from the National Association for Search and Rescue (NASAR) course, SARTech II/III. See Attached NASAR Certification Standards for SARTech II/III pages.

- Define the components of SAR operations
- List the major responsibilities for search and rescue
- Describe the components of ICS and their functions
- List and differentiate between at least three types of maps used in SAR
- Identify, define and demonstrate the use of topographical maps
- Define the plotting methods or grid systems and demonstrate the ability to use them to determine the coordinates for a given point
- Describe the parts of the compass and demonstrate the ability to use it
- Describe the navigational functions used in map and compass
- Define SAR resources
- Define the six crucials in SAR management
- Differentiate between the two basic categories of search tactics (Passive and Active)
- Describe the primary types of active search tactics
- Describe the techniques and methods used by searchers
- List at least five of the searching or tactical skills needed by field searchers
- Explain why SAR personnel search for clues not subjects
- List the information needed by the searcher when alerted
- Define the functions of the search crew positions
- Explain why knowledge of lost person behavior can be an advantage to the searcher
- List at least ten of the safety rules for personnel during helicopter operations
- List at least five common radio procedures and guidelines

### **OUTDOOR EDUCATION PROGRAM LEARNING OUTCOMES:**

- Evaluate a group's risk concerns for a specific activity to create a plan that will appropriately manage associated risks.
- Apply appropriate leadership theories and techniques in various backcountry and outdoor education settings.

## **COURSE GOAL**

This course will foster an understanding of the basic skills, equipment and performance required for a person to become a useful member of a search and rescue or other emergency response team. Likewise, it will assist in the preparation of a person to perform safely and competently in an outdoor environment or to handle emergencies that may occur during outdoor recreation or career activities.

## **GRADING/EVALUATION:**

**Grading will be based on written assignments, quizzes, tests, and a final exam. The grading policy in the college catalog will be used.**

- 200 points (up to) attendance and skill testing with equipment during SAR practice scenarios in the field, 50 points per class. Points awarded for participation and appropriate/professional conduct.
- Up to 200 points quizzes and exams
- 200 points Written/Homework assignments- to be found and turned in on Moodle

## **REQUIREMENTS**

Each participant is expected to read assigned chapters in the textbook prior to the related classroom or field activity. Participants must attend at least 80% of the presentations and participate in discussions and activities in order to obtain National Association for Search and Rescue certification. Each participant will be responsible for dressing appropriately for activities including outdoor sessions possibly during inclement weather. Every participant shall behave in a safe, courteous and professional manner with respect to the instructors and fellow students. No tobacco, alcohol or illegal controlled substances shall be used prior to or during course activities. Prescription medicines being used that may impair safe performance should be discussed with the instructor prior to engaging in activities where safety is a concern. While this course is designed to be fun as well as educational, it is not a game. Horseplay and inattention can be dangerous and will not be tolerated.

## **REQUIRED EQUIPMENT**

- \*A small backpack or day-pack.
- Each student is responsible for having and using the appropriate outdoor clothing for the season and weather. This includes: hat, shirt, pants and shoes/boots for the current weather and activity engaged in. It also requires the availability of hats, gloves, coats and over-pants for protection from more severe weather including rain, winter and/or snow.
- Each student must have a container for carrying drinking water. A one-liter plastic water bottle is sufficient. Drinking water will be available. A few snacks such as trail mix or nutrition bars are a good idea. Some activities consume considerable calories and fluids.
- If you have your own headlamp, compass, GPS, flashlight, climbing helmet, climbing harness, leather gloves or personal survival/first-aid kit, you should bring them with you to class.
- Essential equipment such as safety helmets and harnesses and special tools like compass or GPS will be provided for course activities.
- Be prepared to go outside even though we will not always go outside for every class.

## **ADDITIONAL LEARNING OBJECTIVES**

**Upon completion of this course in Basic Search and Rescue, the participant will be able to:**

### *Technical Rope Rescue:*

- Tie eight common rescue knots using rope and webbing
- Tie an improvised body harness using nylon webbing
- Perform a safety rope belay for another person using a rope and hardware
- Rappel down a steep slope using a rope and rappel brake
- Rig a basket stretcher for raising and lowering on sloping ground with a rope and hardware.

### *Navigation*

- Use the basic functions of a Global Positioning System (GPS) receiver.
  - o Obtain a position fix (coordinates)
  - o Save a landmark/waypoint position in GPS Memory
  - o Locate a fixed position
- Perform basic map-reading skills

- Identify common map symbols

- Identify terrain features using map contour lines
- Measure map distances
- Determine map grid coordinate locations
- Perform basic compass skills.
  - Determine a direction in the field
  - Orient a map to the real world
  - Measure map angles/directions
  - Convert map bearings to compass heading
  - Follow a given course of travel in the field
- Perform additional field navigation skills.
  - Measure distance by pace counting
  - Measure distance by time
  - Document a course of travel using “Dead Reckoning”

### *Water Search and Rescue*

- Describe a water search and rescue team response.
- List the safety requirements for shore-based water rescue.
- List several water and rescue resources.
- Describe the water rescue principle of “Teach-Reach-Throw-Go-Helo.”
- Perform shore-based water rescue skills.
  - Describe a lake SAR response
  - Perform lookout functions
  - Search riverbank
  - Use a throw-bag
  - Set up a zip-line
- Perform a swift water crossing.

### *Man-tracking*

- Define “Sign”.
- Describe the four basic elements of sign.
- Demonstrate the use of a tracking stick.
- Follow sign for a designated distance.

### *Ready Packs/Action Packs*

- Describe the need for a ready pack.
- List the common components of an action pack.
- Describe the use of common action pack items.

### *Wilderness Medicine*

- Describe the important differences between wilderness and urban medicine.
- Diagram a wilderness medicine ICS organization chart.
- Discuss the components of a basic SAR first aid kit.

### *Patient Transport*

- Discuss wilderness transport concerns for delayed or extended transport.
- Discuss patient packaging principles.
- Demonstrate a variety of patient stabilization and packaging devices.
  - Cervical collars
  - Spine Splints
  - Vacuum splints
  - SKED Stretcher
  - Basket stretcher
  - Wheeled stretcher carrier

### *Night Operations*

- Discuss the difficulties of operating at night or in a dark environment.
- List special nighttime equipment.
- Demonstrate the use of nighttime equipment.
  - o Flashlights, headlamps and lanterns
  - o Chemical lightsticks
  - o Trail and equipment markers
  - o Binoculars

### *Incident Communications and Documentation*

- List the common forms of incident communication.
- Describe the principles and practices of two-way radio communication.
- Discuss local emergency services radio communication systems.
- Demonstrate the proper format/procedure for two-way radio communication.
- Discuss the need and use of incident documentation forms

### *Critical Incident Stress Management*

- Describe a critical incident.
- Describe the "emergency responder personality".
- Describe CIS mitigation strategies

### *Special Operations and Teams*

- High angle and technical rescue.
- Water response and SCUBA diving.
- ELT and aircraft location.
- Advanced wilderness medicine.
- ATV and snowmobile operations.
- Avalanche safety and search and rescue.

### **ATTENDANCE POLICY:**

**Attendance is mandatory for all days in the field. If you cannot attend every day of the class you should not register for the course.**

**I do take attendance!!** In accordance with Northwest College's policy; One unexcused absence is allowed for each credit offered. After the allowed absences have been taken, the instructor has the prerogative to reduce the student's grade by one grade per absence beyond the number allowed.

I do not give make-up exams/quizzes/assignments except in the case of extreme emergencies (which I determine). If a quiz is to be made up, it must be completed before the next class following the day the exam/quiz was given or if the student is absent for multiple classes for an excused/allowable reason, before the next class the student will be attending, otherwise it cannot be made up at all. Give me the courtesy of a phone call if something comes up **before** the class, not after the fact. If you will be missing class for an official college function, any assignment, exam or quiz scheduled for the time you will be absent **MUST** be completed **BEFORE** you leave.

Please do not put me in the unfortunate and distasteful position of having to enforce this policy. What do we do if we have a problem?? Make an appointment with me and we will try to work something out.

### **DUE DATES FOR WORK:**

All assignments are due at the **beginning** of class on the expected date. Late work may or may not be accepted depending upon circumstances. **If accepted, late assignments will automatically receive a grade of 75% when handed in and then further assessment will commence (you cannot get a higher grade, but if the project is poorly done in addition to being later, the grade CAN go down.)**

### **STUDENTS WITH DISABILITIES:**

Northwest College is dedicated to removing barriers and opening access for students with disabilities in

compliance with ADA and Section 504 of the Rehabilitation Act. It is the student's responsibility to make an appointment with the Disability Support Services (DSS) Coordinator to provide documentation of a disability (whether it is psychiatric, learning, mobility, health related, or sensory) and to inquire about accommodations for courses each semester. To contact the DSS Coordinator, call 754-6135 or stop by the Student Success Center located in the lower level of Colter Hall.

**ACADEMIC CODE OF CONDUCT:**

Please read your NWC Student Handbook. Students guilty of academic dishonesty are subject to a letter grade of "F" for the class in which the violation was committed. Academic Dishonesty includes cheating on tests, quizzes, and homework assignments. Plagiarism of any work in or for class is considered Academic Dishonesty and are subject to a letter grade of "F" on the assignment and/or class.

**\* There will no use of alcohol, tobacco, or illegal drugs allowed at anytime during this course. Cell phone MUST be turned off during class.**

**Tutoring:** Tutoring services are available by contacting Carol Zawacki in the Student Success Center or calling her at 6137. In addition, students can access [A Student's Guide to Northwest](#) via direct link on the NWC homepage. New to NWC is the tutorial program SMARTHINKING. Your user name is: oncampusnwc and your password is: tutoringnow.

### Course Schedule

Listed below is the schedule for the class. Instructor maintains the right to adjust the schedule as needed.

Topics for the week. Please have read each chapter in its designated week by the Tuesday of that week before class. We will periodically have quizzes during the classroom class so be sure to have read and completed all assignments.

WEEK	TOPIC	Reading Assignment for Next Week <i>Chapter(s)</i>
1	SAR Introduction	Chapters 1, 2
2	ICS Overview	Chapter 3, 4
3	Navigation I	Chapter 10
4	Navigation II	
5	Physiology and Fitness; Survival and Improvisation	Chapter 5, 6
6	Search & Rescue clothing; Ready Pack	Chapter 7, 9
7	Search & Rescue Resources	Chapter 11
8	Introduction to Lost Person Behavior	Chapter 13
9	Search Tactics	Chapter 12, 14
10	Search Operations	Chapter 15
11	Wilderness First Aid	Chapter 16
12	Mountain and Technical Rescues	Chapter 16
13	Water Rescue	
14	Survival	Chapter 8
15	Getting Involved	