

NRM 142 Course Outline as of Fall 2024**CATALOG INFORMATION**

Dept and Nbr: NRM 142 Title: ORIENTEERNG WILDRNS

Full Title: Orienteering for Wilderness Users

Last Reviewed: 12/12/2023

Units		Course Hours per Week		Nbr of Weeks	Course Hours Total	
Maximum	1.00	Lecture Scheduled	1.00	17.5	Lecture Scheduled	17.50
Minimum	1.00	Lab Scheduled	1.00	4	Lab Scheduled	17.50
		Contact DHR	0		Contact DHR	0
		Contact Total	2.00		Contact Total	35.00
		Non-contact DHR	0		Non-contact DHR	0

Total Out of Class Hours: 35.00

Total Student Learning Hours: 70.00

Title 5 Category: AA Degree Applicable

Grading: Grade or P/NP

Repeatability: 00 - Two Repeats if Grade was D, F, NC, or NP

Also Listed As:

Formerly:

Catalog Description:

Students will learn compass orienteering, Global Positioning Systems (GPS), topographic map reading and smartphone applications for orienteering in backcountry and wilderness situations.

Prerequisites/Corequisites:**Recommended Preparation:****Limits on Enrollment:****Schedule of Classes Information:**

Description: Students will learn compass orienteering, Global Positioning Systems (GPS), topographic map reading and smartphone applications for orienteering in backcountry and wilderness situations. (Grade or P/NP)

Prerequisites/Corequisites:

Recommended:

Limits on Enrollment:

Transfer Credit:

Repeatability: Two Repeats if Grade was D, F, NC, or NP

ARTICULATION, MAJOR, and CERTIFICATION INFORMATION:

AS Degree:	Area	Effective:	Inactive:
CSU GE:	Transfer Area	Effective:	Inactive:
IGETC:	Transfer Area	Effective:	Inactive:
CSU Transfer:		Effective:	Inactive:
UC Transfer:		Effective:	Inactive:

CID:

Certificate/Major Applicable:

Both Certificate and Major Applicable

COURSE CONTENT

Student Learning Outcomes:

At the conclusion of this course, the student should be able to:

1. Perform basic compass orienteering.
2. Perform orienteering with Global Positioning Systems (GPS).
3. Perform topographic map reading as applied to backpackers and wilderness recreation users.

Objectives:

At the conclusion of this course, the student should be able to:

1. Determine the scale of maps.
2. Interpret contour lines and intervals on a map.
3. Interpret range and township grids on a map.
4. Interpret topographic map symbols and color system on a map.
5. Traverse a set distance along a prescribed compass bearing.
6. Understand the difference between magnetic and true north and how to correct for it when using a handheld compass.
7. Perform basic triangulation using maps.
8. Apply map and compass principles to GPS technology.
9. Perform basic orienteering and maneuvering with map, compass, and GPS.

Topics and Scope:

- I. Map Scale
 - A. Ratio (1"=1000 feet or 1:12,000)
 - B. Graphic
- II. Longitude and Latitude
 - A. Degrees
 - B. Minutes
 - C. Seconds
- III. Legal Descriptions
 - A. Base and meridian
 - B. Township and range

- C. Sections (640 acres), quarter sections (160 acres), sixteenth sections (40 acres) – numbering system of sections
- D. Section corners, K tags (on the ground section line indicators) [very common on federal lands, i.e., National Forests]
- IV. Topographic Maps
 - A. Contour lines and intervals
 - B. Symbols
 - C. Color system
 - D. Township/Range/Section lines and numbers
- V. Mechanical/Magnetic Principles of the Hand Compass (Magnetic North vs. True North)
- VI. Route Finding from a Known Point - Obstacles
 - A. Steep slopes
 - B. Watercourses
- VII. Basic Triangulation for Finding Location based on Bearings to Observed Points
- VIII. Map and Compass Principles Applied to GPS Technology
- IX. Basic Orienteering
 - A. With map and/or aerial imagery
 - B. With compass
 - C. With GPS
 - D. With smart phone applications
 - E. Pacing distances (how many steps for 100 feet or one chain [approximately 66 feet] – it differs on different slopes)
 - F. Distance and area measurements (80 chains = one mile, 10 square chains = one acre)

All topics are covered in the lecture and lab portions of the course.

Assignment:

Lecture-Related Assignments:

1. Weekly reading (2-10 pages)

Lab-Related Assignments:

1. Field location of assigned geographic points using a map, compass, and GPS equipment
2. Identification of horizontal and vertical location of those points on a map
3. Field orienteering using a map and compass

Lecture- and Lab-Related Assignments:

1. Final project.

Methods of Evaluation/Basis of Grade:

Writing: Assessment tools that demonstrate writing skills and/or require students to select, organize and explain ideas in writing.

None, This is a degree applicable course but assessment tools based on writing are not included because problem solving assessments and skill demonstrations are more appropriate for this course.

Writing
0 - 0%

Problem Solving: Assessment tools, other than exams, that demonstrate competence in computational or non-computational problem solving skills.

Field location of assigned geographic points; identification of horizontal and vertical location of those points on a map

Problem solving
40 - 45%

Skill Demonstrations: All skill-based and physical demonstrations used for assessment purposes including skill performance exams.

Field orienteering; final project

Skill Demonstrations
40 - 45%

Exams: All forms of formal testing, other than skill performance exams.

None

Exams
0 - 0%

Other: Includes any assessment tools that do not logically fit into the above categories.

Participation

Other Category
10 - 20%

Representative Textbooks and Materials:

Be Expert with Map and Compass: The Complete Orienteering Handbook. Kjellstrom, Bjorn. Wiley. 1994 (classic).

Introduction to GPS: The Global Positioning System. El-Rabbany, Ahmed. Artech House. 2006 (classic).

NOLS Wilderness Navigation. 3rd ed. Trantham, Gene and Wells, Darran. Stackpole Books. 2018.

Instructor prepared materials.