

# ROCKY MOUNTAIN FIELD SEMINARS

## LEARN ♦ EXPLORE ♦ ADVENTURE

### GPS NAVIGATION

**JULY 26-27, 2008**

**COURSE LEVEL: II**      **COURSE #: 08-037**

**FEE: \$170.00**

**INSTRUCTOR: STEVE REITER**



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**LOCATION:**      **Rocky Mountain Field Seminar & Conference Center**  
**1895 Fall River Road, Estes Park, Colorado**

**TIME:**          **Saturday:**      Day 1, Field Seminar Center at 8:00 AM  
                 **Sunday:**        Day 2, Field Seminar Center at 9:00 AM

**COURSE DESCRIPTION:** This course is geared toward the recreational traveler who has little or no experience using a GPS and the GPS owner who would like to gain a greater understanding of his/her GPS. Emphasis will be placed on using the receiver with a topographic map. Topics to be covered include: demystifying grids and datum; plotting waypoints at home and in the field; use of GPS in conjunction with USGS topographic maps; and various GPS functions and limitations of the GPS. A demonstration of GPS navigation software will show students how to extend GPS use beyond navigation. All material is provided and GPS receivers will be available for loan. An understanding of USGS topographic maps is helpful, but is not required. A half-day exercise in Rocky Mountain National Park will be conducted on the second day. By the end of this course, participants will have the knowledge to navigate in the backcountry with greater confidence.

**INSTRUCTOR'S BIOGRAPHY:** Steve Reiter is a geographer in the US Geological Survey's Earth Science Information Center, a position he's held since 1995. He routinely teaches classes on reading topographic maps, compass use, and navigation with GPS at conventions, sporting goods stores, and other venues. He has a bachelor's degree in geology and a Master's Certificate in computerized mapping. Steve is a weekend hiker who routinely uses the skills that will be taught in this class.

### **COURSE LEVEL: II**

The seminar will include short-distance walks throughout the day on primarily level terrain.

### **EXPECTATIONS:**

Professional conduct will be expected from participants at all times. Respect for individual ideas will be observed. Except during course breaks, cellular phones, pagers, and personal entertainment devices are strictly prohibited in the classroom and during field sessions.

**CAR-POOLING:** Rocky Mountain Field seminars utilize car-pooling to limit vehicles traveling into the Park. Car-pooling makes it easier to keep the group together, reduces transit time, and allows courses greater access because fewer parking spaces are required at destinations. In addition, it provides an opportunity for participants to discuss course material in small groups during transit. Typically, a few participants from each course volunteer the use of their vehicles for car-pooling to course locations.

**TENTATIVE COURSE SCHEDULE:**

Saturday 8:00 AM	Introductions and course overview  Differences among receivers.  Three basic functions of GPS.  GPS navigation terminology, including waypoints, trackpoints, routes, and datums.  GPS horizontal & vertical accuracy.  Outdoor segment: GPS almanac & ephemeris, satellite status screen, position report screen, recording waypoints, using the GOTO function, and managing track logs.
Noon	Lunch
1:00 PM	Lecture covering how to integrate the GPS and USGS topographic maps, with emphasis on the UTM coordinate system
3:00 PM	Brief outdoor segment using an aerial photograph of the local area & prep for tomorrow's field session
Sunday	
9:00 AM	Review yesterday's assignment; question and answer session; prepare to head into the field.
10:00 AM	Meet at Beaver Meadows (in Rocky Mountain National Park) and begin field session. Exercises to include waypoint acquisition & navigation, locating survey monuments and natural features, recording track logs
Noon	Lunch in the field
1:00 PM	Continue field session.
3:00 PM	Return to Seminar Center. Demonstration of GPS mapping software. Final question and answer session. Course evaluation.

**SPECIAL EQUIPMENT:**

- The instructor will provide Garmin ETREX receivers to those who do not own a GPS.
- A pen or pencil
- A pocket size notebook
- A small "Rite in the Rain" field book is optional, but a great tool for the backcountry enthusiast.
- A small hand lens (optional, but helpful for reading information on GPS units with small screens)
- Small daypack

**CLOTHING AND EQUIPMENT RECOMMENDATIONS:** Participants should bring hiking shoes, sunglasses, sunscreen, brimmed hat, a sack lunch, plenty of drinking water (1-2 quarts), and be prepared for

possible cold and wet weather. On Sunday, be prepared to hike off trail for 3-4 miles over rolling terrain (easy-to-moderate difficulty). If you like to hike with trekking poles, bring them.

**FINAL NOTE:** It is imperative that you come to this class with a basic understanding of the features on your particular model GPS. Prior to the class, read your owner's manual (also bring the manual along) and, at a minimum, learn how to scroll through the various pages on your particular model. Do not be afraid to experiment; unlike a computer, you cannot enter data that can damage the unit. Other than that, come prepared to have fun and discover the power of this navigational system.

**WHAT TO BRING:**

- Sack lunch, snacks, energy bars, & **WATER**
- Binoculars
- Notebook
- Pen/pencil

**REMEMBER TO BRING THE 10 ESSENTIALS:**

Rocky Mountain National Park recommends that hikers always carry the 10 essentials in their daypacks.

- Raingear
- Map & compass
- Flashlight or headlamp
- Sunglasses & sunscreen
- Candles
- Matches or other fire starter
- Pocketknife
- First-aid kit
- Extra layers of clothing
- Sack lunch, snacks, & water

*Note: Rocky Mountain Field Seminars recommends that participants for all courses dress in layers and wear comfortable, sturdy hiking boots/shoes. Participants should be prepared for sudden changes in temperature and weather conditions.*

**RECOMMENDED READING:**

*Using GPS, GPS Simplified for Outdoor Adventures*, Bruce Grubbs, Falcon Publishing

*GPS Made Easy, Using GPS in the Outdoors*, Lawrence Letham, The Mountaineers Books

<http://joe.mehaffey.com> (a great website devoted to GPS information. Excellent resource for first-time buyers and anyone looking to upgrade his/her unit.)

**TEACHER RECERTIFICATION CREDIT**

Most seminars are eligible for teacher recertification credit through the Centennial Board of Cooperative Education Services (BOCES). The new fee is \$25.00 per seminar (.5 units) or \$25.00 per series of threaded seminars (1.0 - 3.0 units). A list of threaded seminars can be found in the Field Seminar catalog or online at [www.rmna.org](http://www.rmna.org). Participants must enroll in all seminars of a threaded series in order to qualify for the \$25.00 multi-unit fee. Please be prepared to pay for this credit with a check, made payable to BOCES, on the first day of a seminar or on the final day of a threaded series of seminars. **This seminar is one of two in Thread J.**