

# ROCKY MOUNTAIN FIELD SEMINARS

## LEARN ♦ EXPLORE ♦ ADVENTURE

### SPRING ECOLOGY

APRIL 14-15, 2007

COURSE LEVEL: III      COURSE #: 07-003

FEE: \$150

INSTRUCTOR: DR. TIMOTHY KITTEL



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LOCATION:      **Rocky Mountain Field Seminar & Conference Center**  
1895 Fall River Road, Estes Park, CO 80517

TIME:              SATURDAY/SUNDAY: 9:00 a.m. – 4:30 p.m.

**COURSE DESCRIPTION:** The transition from winter to spring offers insights into the natural history of organisms and function of ecosystems that are not often appreciated in summer visits to the field. *Spring Ecology* is a survey of physical and biological processes as snow-covered environments rapidly change to summer conditions. We will spend the weekend in the field exploring the ecology of Rocky Mountain National Park upper montane and subalpine landscapes during this transition. We will study plant, vertebrate, and microbial cold-season adaptations and consider how spring processes play a role in ecosystem “growing season” dynamics, shape landscapes, and are important factors in conservation and management of natural resources of the Rocky Mountains.

**COURSE LEVEL: III (Moderate hikes of less than five miles per day with elevation gain of less than 1,000 feet)**  
Total elevation gain for this course will be no more than 500 feet/day. Spring in the Park can be warm (“spring conditions”) or resembling winter – with snow, low temperatures, and wind. Participants need to be in good health and physical condition, and aware of the stress of being out in snowy mountain environments, including cold conditions and lower oxygen levels than in The Plains. Those with respiratory or heart conditions are advised to consult their physician before enrolling.

**BRIEF INSTRUCTOR BIOGRAPHY (additional information available at [www.rmna.org](http://www.rmna.org)):**

Dr. Timothy Kittel (PhD Ecology) is a research ecologist at the Institute of Arctic and Alpine Research, University of Colorado, Boulder. His approach to instruction emphasizes experiential learning. He teaches Winter Field Ecology for CU’s Mountain Research Station and summer overseas field ecology courses for Columbia University tailored to non-science majors.

**INSTRUCTOR’S WEBSITE:** <http://culter.colorado.edu/~kittel/>

**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 courses 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.

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**TENTATIVE COURSE SCHEDULE:** Details to be announced

Saturday:

- 9:00 am – Orientation: Goals & Safety, Introduction to Spring Ecology
- 10:00-12:00 – Field
- 12 noon – Lunch
- 12:30–2:30 pm – Field
- 2:30-2:45 – Break
- 2:45-4:15 – Lab & Discussion
- 4:15-4:30 – Recap & Prep for Sunday

Sunday:

- 9:00 am – Orientation: Today's Topics - Goals & Background
- 10:00-12:00 – Field
- 12 noon – Lunch
- 12:30–2:30 pm – Field
- 2:30-2:45 – Break
- 2:45-4:15 – Lab & Discussion
- 4:15-4:30 – Wrap-up, Farewells, & Departure

#### WHAT TO BRING:

*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. **This will be of special concern for the Spring Ecology field seminar.***

- Daypack
- Food & Liquids – essential for helping your body stave off the cold and any altitude sickness.
  - Sack Lunch & Snacks – substantial in quality & quantity
  - **WATER** and/or Hot liquids in a thermos (Tea, Soup, )
- Sunglasses & Sunscreen
- **Cold Weather Clothing & Boots**
  - Use a layering system that works for you - that keeps you warm, yet mobile
    - Snow (rain) jacket & pants – for protection against snow/rain & wind
    - Hat – for protection against sun & cold
    - Gloves/mittens & overmitt shells
    - Scarf/neck gaiter
    - Warm jacket & vest/pullovers – Pile/fleece or other warm fabric
    - Boots – footwear that will keep your feet dry & warm, e.g., when standing around in the snow
    - Gaiters
- *Optional, But Recommended* –
  - Field journal
  - Hand lens
  - Camera
  - Binoculars
  - Field Guides to birds, trees, mammal tracks, etc.

As a general reference, see also CU's Winter Ecology's list of equipment

<[http://culter.colorado.edu/~kittel/WinterEcology\\_Equip.html#FieldEquipment](http://culter.colorado.edu/~kittel/WinterEcology_Equip.html#FieldEquipment)>

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#### 10 ESSENTIALS:

Rocky Mountain National Park recommends that hikers always carry the 10 essentials in their daypacks (with overlap with the previous list):

- Raingear (or for this course: Snowgear)
- Extra layers of clothing
- Hat, Sunglasses & Sunscreen
- Extra Food & **WATER**
- Flashlight or Headlamp
- Candles
- First Aid Kit
- Map & Compass (or GPS)
- Matches or Other Fire Starter
- Pocketknife

#### RECOMMENDED READING:

“Is This Spring?” – Part 5 (pp. 141-160), in: *Song of the Alpine, The Rocky Mountain Tundra Through the Seasons*. By Joyce Gellhorn. Johnson Books, Boulder. 2002.

#### ADDITIONAL INFORMATION FOR STUDENTS PURSUING CSU CREDIT

**COURSE OBJECTIVES:** The goal of *Spring Ecology* is to survey physical and biological processes in Rocky Mountain National Park’s upper montane and subalpine as they rapidly change from winter into summer. Specific objectives are (1) to study plant, vertebrate, and microbial cold-season adaptations, (2) to consider how spring processes play a role in ecosystem “growing season” dynamics, and (3) how these are important factors in management of natural resources of the Rocky Mountains.

**CONTACT HOURS:** 14 hours

**EVALUATION TECHNIQUES:** Active participation in field activities and discussion, demonstrating understanding of material covered in the field and readings.

**GRADING METHOD:** Pass/Fail