2015 DEPARTMENT OF FOREST RESOURCES  
ADVANCED FOREST AND NATURAL RESOURCE MANAGEMENT FIELD SESSION  
May 17 – June 5  
Cloquet Forestry Center  
University of Minnesota  
175 University Road  
Cloquet, MN 55720-9594  
http://cfc.cfans.umn.edu/

Who should attend  
What students study  
Registration  
Approximate tuition and fees  
Student health  
Housing  
Meals  
Location  
Arrival and departure  
Daily and weekly schedule  
Equipment  
Course-related transportation  
Miscellaneous  
Lyme Disease  
Forms

Program information: Charlie Blinn – (612) 624-3788, cblinn@umn.edu, 330b Green Hall  
Registration information: Tracene Marshall – (612) 625-0266, marsh318@umn.edu, 10A Green Hall

The field session is coordinated by the Department of Forest Resources and the Student Services Office located in 190 Coffey Hall, 1420 Eckles Avenue, St. Paul, MN 55108.
WHO SHOULD ATTEND

The Department of Forest Resources’ Advanced Forest and Natural Resource Management Field Session is designed for students who wish to become directly involved in forest land management or find positions in specialized areas such as resource measurements, analysis and planning, silviculture, timber harvesting, hydrology, forest protection, or policy development. It provides unique hands-on learning experiences for undergraduate and graduate students that build upon previous coursework and knowledge.

All undergraduate Forest and Natural Resources Management majors within the Forest Ecosystem Management and Conservation (FEMC) specialization are required to attend. FEMC specialization students must attend at least two of the three classes offered. Graduate students who are interested in on-the-ground practices and field skills development are also encouraged to attend. They may take the course at either the 4xxx or 5xxx level, depending upon their need for credits. Additionally, graduate students focusing on how society values and makes decisions about the use, management, and protection of natural and environmental resources will also benefit from attending the session.

WHAT STUDENTS STUDY

The session is an intensive experience where students learn the field techniques and applications of remote sensing and resource survey, silviculture, and timber harvesting and road planning. Extensive time is spent examining and applying advanced concepts in the field. Each course is taught independently, yet builds upon the previous classes. The three courses included in the session are described below. For additional information on the courses and faculty, see www.forestry.umn.edu.

FNRM 4511 (2 credits) and FNRM 5611 (1 credit) – Field Silviculture, TBA, Instructor

Students learn how to collect field data and prepare/write silvicultural prescriptions for achieving management objectives within the context of stand, landscape, watershed, and wildlife habitat/biodiversity issues. They conduct field exercises that consider forest entomology, pathology, tree improvement, forest soils, and nontimber forest products. As a part of the course, students are involved with regeneration and restoration planning, including tree planting and marking stands for thinning and regeneration harvests. Prerequisites for undergraduate students: FNRM 3104, 3411, or instructor consent.

FNRM 4515 (2 credits) and FNRM 5615 (1 credit) – Field Remote Sensing and Resource Survey, Joe Knight and Mike Falkowski, Instructors

This course builds student knowledge and skills in remote sensing and sampling and measurement methods for inventory, mapping, monitoring and analysis of forest and related natural resources. Students conduct exercises in field data collection and image interpretation, data synthesis and reporting, and learn about resource survey design options. These exercises expose students to a range of approaches and technologies for data capture, analysis and reporting. Problems considered range from describing trees and stands on the Cloquet Forestry Center to larger landscape and regional levels and issues from describing land use, resource condition, future condition, and management practices, including the impact of practices. Prerequisites for undergraduate students: FNRM 3218 and 3262 or instructor consent.
FNRM 4521 (2 credits) and FNRM 5621 (1 credit) – Field Applications of Timber Harvesting and Road Planning, Charlie Blinn, Instructor

Students learn about the process of planning and conducting timber harvesting and forest road design considering the economic, environmental, and social influences which impact those operations. The intent is to present and discuss those issues in the context of implementing natural resource management plans. Course emphasis is on providing field-based experiences with the various aspects of timber harvesting and road planning. As site and stand conditions, landowner objectives, regulations, and other factors vary across the landscape, there are a variety of approaches used to accomplish timber harvesting and road planning. The course will address many of the different methods, presenting more detail for some than others. The course includes field trips to forests managed by public and private landowners to view on-the-ground practices. Grading is based on four exercises (application of forest management guidelines, timber appraisal, road design, and timber sale design) and a final exam. Prerequisites for undergraduate students: FNRM 3411, 3431, or instructor consent.

REGISTRATION

Registration is on-line. If you do not fulfill course prerequisites, you will need to get permission from the faculty member(s) in charge of the course.

For students who are currently enrolled in the College of Food, Agricultural and Natural Resource Sciences, registration for this session begins on March 9.

For those students who are not currently enrolled in the College of Food, Agricultural and Natural Resource Sciences, registration for this session begins on May 1.

Non-degree seeking students who wish to attend the Advanced Field Session are required to submit an Application for Non-Degree Admission to the Student Services Office as soon as possible. Non-Degree students are not required to pay an application fee and receive instructor approval. Registration for Non-degree students starts on May 1.

Non-major students may register for the Advanced Field Session if they have completed the prerequisites or if they get permission from the faculty member(s) in charge of the course.

Graduate students may register for the Advanced Field session beginning on March 9. If they haven’t completed course prerequisites, students should discuss their enrollment in a course with their advisor and the appropriate instructor(s) prior to registering for the session.
APPROXIMATE TUITION AND FEES

Tuition (per credit)

<table>
<thead>
<tr>
<th></th>
<th>Resident</th>
<th>Nonresident</th>
</tr>
</thead>
<tbody>
<tr>
<td>Undergraduate Students</td>
<td>$463.85</td>
<td>$742.69</td>
</tr>
<tr>
<td>Graduate Students (part-time)</td>
<td>1,288.16</td>
<td>1,973.33</td>
</tr>
</tbody>
</table>

Note: Undergraduate students may be eligible for financial aid if they register for 6 credits. Additionally, the College and/or Department of Forest Resources may be able to provide scholarship support for the session for those students who applied through the CFANS scholarship process. Undergraduate students who take all three courses and who applied through the CFANS scholarship process will receive a minimum of $500 in scholarship support. Graduate students are also urged to contact the Forest Resources Department head for potential fellowship support. Given those possibilities, students should register early.

Estimated fees

Field Studies Health Service Fee (outpatient care, if necessary) 123.20
University Sponsored Student Health Benefit Plan (SHBP) 575.00*
College and Program Fee
  55.00 (≥ 3 credits)
  27.50 (< 3 credits)
Course fees (all include lodging at the Cloquet Forestry Center, equipment, supplies)
  FNRM 4511/5611 (also includes transportation) 125.00
  FNRM 4515/5615 70.00
  FNRM 4521/5621 (also includes transportation) 125.00

*Students must purchase the Student Health Benefit Plan (SHBP) unless they already have their own hospitalization coverage. Proof of coverage when registering will exempt you from additional insurance charges. Students enrolled in the Student Health Benefit Plan during spring semester will be automatically covered on the Plan through the summer semester at no additional charge (even if they are graduating at the end of spring semester). If you are not already insured, you must purchase the Student Health Benefit Plan.

Approximate cost summary for resident undergraduate students taking 4 credits, including FNRM 4515

<table>
<thead>
<tr>
<th></th>
<th>Tuition</th>
<th>Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student w/ your own health insurance</td>
<td>$1,855.40</td>
<td>$373.20</td>
<td>$2,228.60</td>
</tr>
<tr>
<td>Student w/ U of MN SHBP</td>
<td>$1,855.40</td>
<td>$948.20</td>
<td>$2,803.60</td>
</tr>
</tbody>
</table>

Approximate cost summary for resident undergraduate students taking 4 credits, excluding FNRM 4515

<table>
<thead>
<tr>
<th></th>
<th>Tuition</th>
<th>Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student w/ your own health insurance</td>
<td>$1,855.40</td>
<td>$428.20</td>
<td>$2,283.60</td>
</tr>
<tr>
<td>Student w/ U of MN SHBP</td>
<td>$1,855.40</td>
<td>$1,003.20</td>
<td>$2,858.60</td>
</tr>
</tbody>
</table>

Approximate cost summary for resident undergraduate students taking all 6 credits

<table>
<thead>
<tr>
<th></th>
<th>Tuition</th>
<th>Fees</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Student w/ your own health insurance</td>
<td>$2,783.10</td>
<td>$498.20</td>
<td>$3,281.30</td>
</tr>
<tr>
<td>Student w/ U of MN SHBP</td>
<td>$2,783.10</td>
<td>$1,073.20</td>
<td>$3,856.30</td>
</tr>
</tbody>
</table>
A billing statement for tuition and fees will be sent to your student account when you register for the session. These charges must be paid in full by the due date indicated on your billing statement. A late fee will be assessed if payment is not received by that time.

**STUDENT HEALTH**

The Advanced Field Session involves sustained physical activity, working alone or in teams, often on uneven terrain and in a variety of weather conditions. A medical examination prior to the session is advised. Students who are required to complete the field session, but will not be able to do so due to medical reasons, should contact Dr. Alan Ek (612/624-3400) within the Department of Forest Resources. Students should inform the instructor of any physical problems that might restrict their ability to perform a particular assignment.

Immunization clearance is not required for the session; however, students attending the session should have had a tetanus booster vaccination within the last five years.

While at Cloquet, students who have registered for 3 or more semester credits and who have paid their Student Service Fee are regular members of the University Health Service with medical services provided through Raiter Clinic (218/879-1271), 417 Skyline Blvd., Cloquet. Directions to the Raiter Clinic are noted below Coverage is similar to that available on the Twin Cities Campus. All injuries must be reported immediately to Dr. Linda Nagle (Director) or Stephanie Oberg (Program Associate) at the Cloquet Forestry Center and the course Instructor.

<table>
<thead>
<tr>
<th>Directions from the Cloquet Forestry Center</th>
</tr>
</thead>
<tbody>
<tr>
<td>Head northeast on University Rd toward Cartwright Rd for 0.6 miles</td>
</tr>
<tr>
<td>Continue onto Brevator Rd for 0.6 miles</td>
</tr>
<tr>
<td>Turn right onto Big Lake Rd for 2.4 miles</td>
</tr>
<tr>
<td>Turn left onto MN-33 N for 1.4 miles</td>
</tr>
<tr>
<td>Turn right onto Skyline Blvd. and proceed for 0.1 miles</td>
</tr>
<tr>
<td>Make a U-turn. Destination is on the right in 0.1 miles</td>
</tr>
</tbody>
</table>

Raiter Clinic's hours are 8:00 a.m.-5:00 p.m. Monday-Friday by appointment. A nurse is available at Raiter Clinic by phone at 7:30 am for same-day appointments. After hours medical services are available at the Community Memorial Hospital emergency room (218/879-4641), 512 Skyline Blvd., Cloquet. Directions to the Community Memorial Hospital are noted below.
All medical bills must be submitted to the student's hospitalization insurance carrier first. After their insurance carrier determines the amount they will pay, the student should send the emergency medical service bill and the insurance company's explanation of benefits worksheet (which indicates how much the insurance company paid) to: Boynton Health Service, 410 Church St. S.E., Minneapolis, MN 55455, Attention: Patient Accounting Supervisor. Boynton will pay for the services not covered by the student's hospitalization insurance (excluding take home drugs and supplies) up to a maximum of $100.

The Cloquet Forestry Center does not stock any medications. If you are susceptible to allergic reactions to pollen, insect bites, or stings, etc. bring your own medication to the session. Northern Minnesota is an area where you should be concerned about Lyme disease. Additional information about Lyme disease is presented below on Pages 10 – 12 and by linking to http://www.dnr.state.mn.us/insects/deerticks/index.html, http://www.cdc.gov/lyme/, and http://www.health.state.mn.us/divs/idepc/diseases/lyme/index.html.

**HOUSING**

Students must live on the Center because it greatly simplifies schedules and group assignments and it provides a better learning experience. The Center will apply housing regulations defined within the University’s Community Behavioral Standards (http://www.housing.umn.edu/guidebook/10). By staying in Center housing, you are agreeing to abide by those policies. Housing is available on the Center in Cabin 46 in two person hotel style rooms. Shared occupancy is normally required. Students are housed on a first-come, first-serve basis. Camping facilities are not available. Cabin 46 has wireless internet access, as does the Administration Building.

Pillows and mattresses are provided. However, pillow cases, linen for a twin bed, towels, and blankets must be furnished by students. The occupants of each room are expected to keep their room clean (cleaning supplies will be available). The quarters are clean when students arrive and must be clean when they leave. Students are responsible for room clean up prior to their departure. Pets are not allowed in the dorm rooms under any circumstances.

Please respect the buildings. Do not deface any walls by carving or writing. Do not put nails or tacks in
the walls. Abnormal breakage or damage to dormitories or dorm rooms will be assessed against the individuals involved. Do not wear hobnail or caulk boots in buildings. Do not move any beds or furniture from one area to another. Smoking is prohibited in all buildings.

MEALS

Students are responsible for providing their own meals. Complete cooking facilities (e.g., two full-size refrigerators, a range with an oven, microwave, coffeemaker, dishes, pots and pans, silverware) are available in Cabin 46. Cooking is not permitted in the dorm rooms. You may bring a mini-refrigerator for your room.

LOCATION

The Advanced Field Session is held at the University of Minnesota Cloquet Forestry Center in northern Minnesota. Information about the center can be found at http://cfc.cfans.umn.edu/. For directions, see the map below.

ARRIVAL AND DEPARTURE

The Session will begin at the Center on Sunday, May 17 at 2:30 p.m. in the Administration Building with class and lodging check-in, equipment sign-out, briefing, and an introductory tour of the forest focused on measurement concepts. This tour is considered a part of the first course, FNRM 4515/5615. A welcoming BBQ for students and faculty is provided by the Department of Forest Resources immediately following the forest tour. Meet in the classroom of the Administration Building (Bldg. #44). Park your car in the large parking area next to Cabin 46. In any case, do not report before 2 PM on Sunday, May 17.

Please be advised that your post-session schedule for employment or other activities should take into account the end date for whatever course(s) you are registered to take. Requests for early releases to accommodate personal plans will not be approved. Dorm rooms will be inspected at the end of the session or after your last course to make sure they are clean.

DAILY AND WEEKLY SCHEDULE
Approximate class times are from 8:00 AM to 12:00 PM and 12:45 PM to 4:30 PM, Monday through Saturday. Some evening work will also be scheduled. Class will not meet on Monday, May 25 (Memorial Day). The overall schedule of courses is noted below. Individual instructors may make adjustments in the schedule as necessary for their specific courses.

<table>
<thead>
<tr>
<th>Course</th>
<th>Dates</th>
</tr>
</thead>
<tbody>
<tr>
<td>FNRM 4515/5615 (Field Remote Sensing and Resource Survey)</td>
<td>May 17 – 22</td>
</tr>
<tr>
<td>FNRM 4511/5611 (Field Silviculture)</td>
<td>May 23 – 30 (May 25 is a holiday)</td>
</tr>
<tr>
<td>FNRM 4521/5621 (Field Timber Harvesting and Road Planning)</td>
<td>June 1 – 5</td>
</tr>
</tbody>
</table>

**EQUIPMENT**

Bring your course notes for all prerequisite classes. The following are required supplies that must be provided by students. The supplies are not available at the Cloquet Forestry Center. Purchase them before you leave the Twin Cities. Some items are available at the Books Underground Bookstore on the St. Paul Campus. For the most part, the expensive items will also be used in other courses and/or in your professional career.

- Forester's compass
- Tatum holder or clipboard to hold 8 1/2 x 11 inch paper
- Paper for reports and a packet of graph paper
- Pocket calculator
- Flash drive
- Pencils, pens, colored pencils, etc. for note taking and report writing
- Ruler marked in inches and tenths
- Pocket calculator
- Flash drive
- Pencils, pens, colored pencils, etc. for note taking and report writing
- Ruler marked in inches and tenths

The following items are required for FNRM 4515/5615 (Field Remote Sensing and Resource Survey)
- Hand lens
- Engineer or architect's scale
- Protractor

Personal needs
- Pillow cases, linen for a twin bed, towels and blankets must be furnished by students; pillows and mattresses are provided.
- Field clothes adequate for protection against cold, rain and ticks. A waterproof hat, jacket, pants, and waterproof boots are an absolute necessity because field work is carried out regardless of the weather.
- Footwear appropriate for walking on uneven ground, through dense brush, and when the soil and vegetation are wet and soggy.
- Any other clothing deemed necessary for a 3-week field course.
- Toiletries.
- Insect repellant containing DEET or permethrin - carefully follow the directions on the container.
- Sun protection.
- Any medications including kits for insect stings, bee stings, etc.
- Glasses or other eye protection for working in the woods

Each student will be issued equipment when they check-in for use in one or more courses. Each student
is responsible for the care of the equipment they are issued. Tapes, increment borers, and other tools or equipment needing protection from rust should be kept oiled. Losses or unwarranted damage will be paid for by the responsible student or crew. Hard hats will be issued and eye protection are available, but if you have your own, bring it with you. *Hard hats must be worn when you are visiting an active timber sale.* Specific items that will be checked out to students at check-in and collected before checkout are:

**Equipment issued to all students**  
100 ft. tape  
Diameter tape  
Suunto clinometer  
Increment borer  
Tree and Log Scale Stick with angle gauge (hinge attachment)  
Prism 20 BAF  
Pocket stereoscope

**Equipment that may be issued for short periods**  
Speigel Relaskop  
Laser rangefinder  
GPS receiver  
PDA

**COURSE-RELATED TRANSPORTATION**

In an effort to keep down student costs, a van will only be rented when significant travel away from the Cloquet Forestry Center is anticipated. At other times, students are expected to provide their own transportation for more local classroom activities. As some local classroom activities require transportation in-woods, students need to consider the off-road capabilities of their personal vehicles. Where appropriate, students are responsible for making equitable arrangements with other students for covering transportation expenses associated with local classroom activities. Students must sign and return a Release of Liability form before they will be allowed to participate in any course-related field trips.

**MISCELLANEOUS**

**Emergency Contact Information** – Students must complete and return the Emergency Contact Information form to Charlie Blinn by May 1.

**Telephones** – Individual dorm rooms do not have phones. The Cloquet Forestry Center office number is 218-726-6400. In addition, several courtesy telephones are located throughout the Center. One is located in the vestibule as you enter the Classroom Administration Building (218-726-6489). A phone is also located in the kitchens units of cabin #45 (218-726-6492) and cabin #46 (218-726-6493).

**Computer availability** – A 24-station computer lab is available to students for class assignments, e-mail, and internet access via a fiber optic line.

**Mail** – Mail can be sent to the Forestry Center using the following address. Mail arrives between 12:00
and 1:30 PM Monday - Friday.

Cloquet Forestry Center
175 University Road
Cloquet, MN  55720-9594

Outgoing mail can be placed in the mailbox located on the road between the Administration Building (#44) and the Forest Management Building (#2). It must be placed in the box by 11:30 p.m. each day.

**Laundry** – A washer and dryer are available in the basement of cabin 36. Additionally, two laundromats are located in the City of Cloquet.

**Alcoholic beverages** – Alcohol is not permitted on University property without an alcohol permit application on file (must be completed 3 weeks prior to event) and proof of liability insurance or purchase of university insurance.

**Smoking** – The Cloquet Forestry Center is a smoke and tobacco-free campus.

**Room check for supplies** – A member of the Center staff will enter student rooms weekly sometime between 10 AM – Noon on Mondays to check for supply needs, damage, etc.

**Storage of miscellaneous items** – Do not store items in your room which can block the way in an emergency situation, destroy the interior of a building, or which can cause fire. Specific items which have been a concern in the past include bicycles, car batteries, motorcycles, and canoe paddles. Please store these items outside. Bring a lock to secure them, if necessary.

**Pets** – Pets are not permitted—do not bring them! This policy is rigidly enforced.

**Firearms** – As per University housing regulations (http://www.housing.umn.edu/guidebook/10), you may not possess guns, ammunition, or any other weapons (including, but not limited to knives, darts, BB/pellet guns, bow and arrows, paintball guns, airsoft guns, mace spray, and swords or any blade longer than 4 inches) anywhere on University Housing premises.

**Photos** – Course instructors may take photos of the class at various times for a number of reasons in support of the Department of Forest Resources’ educational, promotional and publicity efforts. Students are requested to sign and return a Photo Release Form to allow the photographs to be used in a publication, print ad, direct mail piece, electronic media (e.g., video, CD-ROM, Internet/WWW), or other form of promotion.
LYME DISEASE
(Prepared by Mayo Clinic staff)

Lyme disease is the most common tick-borne illness in North America and Europe. Lyme disease is caused by the bacterium *Borrelia burgdorferi*. Deer ticks, which feed on the blood of animals and humans, can harbor the bacteria and spread it when feeding.

You're more likely to get Lyme disease if you live or spend time in grassy and heavily wooded areas where ticks carrying the disease thrive. It's important to take common-sense precautions in areas where Lyme disease is prevalent.

If you're treated with appropriate antibiotics in the early stages of the disease, you're likely to recover completely. In later stages, response to treatment may be slower, but the majority of people with Lyme disease recover completely with appropriate treatment.

### Symptoms

Lyman disease signs and symptoms vary widely because Lyme disease can affect various parts of the body. Not everyone with the disease will have all of the signs and symptoms. But in general, Lyme disease can cause:

- **Rash.** A small, red bump may appear within a few days to a month, usually at the site of the tick bite — often in your groin or belt area or behind your knee. The bump may be warm to the touch and mildly tender. Over the next few days, the redness expands, forming a rash that may be as small as your fingertip or as large as 12 inches (30 centimeters) across. It often resembles a bull's-eye, with a red ring surrounding a clear area and a red center. The rash, called *erythema migrans*, is one of the hallmarks of Lyme disease, affecting about 70-80% of infected people. If you're allergic to tick saliva, redness may develop at the site of a tick bite. The redness usually fades within a week. This is not the same as *erythema migrans*, which tends to expand and become redder over time.

- **Flu-like symptoms.** Fever, chills, fatigue, body aches and a headache may accompany the rash.

- **Migratory joint pain.** If the infection is not treated, you may develop bouts of severe joint pain and swelling several weeks to months after you're infected. Your knees are especially likely to be affected, but the pain can shift from one joint to another.

- **Neurological problems.** In some cases, inflammation of the membranes surrounding your brain (meningitis), temporary paralysis of one side of your face (Bell's palsy), numbness or weakness in your limbs, and impaired muscle movement may occur weeks, months or even years after an untreated infection.

- **Less common signs and symptoms.** Some people may experience heart problems — such as an irregular heartbeat — several weeks after infection, but this rarely lasts more than a few days or weeks. Eye inflammation, hepatitis and severe fatigue are possible as well.
When to see a doctor
If you know you've been bitten and experience signs and symptoms of Lyme disease - particularly if you live in an area where Lyme disease is prevalent - contact your doctor immediately. Treatment for Lyme disease is most effective if begun early. Only a minority of deer tick bites leads to Lyme disease. The longer the tick remains attached to your skin, the greater your risk of getting the disease.

Causes

Deer tick life stages

In the US, the Lyme disease bacterium is carried primarily by deer ticks. The ticks are brown and often no bigger than the head of the pin, which can make them nearly impossible to spot.

Ticks attach themselves to a host and feed on the host's blood until they're swollen to many times their normal size. During feeding, ticks that carry disease-producing bacteria can transmit the bacteria to a healthy host. Or, if the host is infected, they may pick up bacteria themselves.

Deer ticks typically feed on the blood of mice, small birds and deer, but they can also feed on the blood of humans, cats, dogs and horses. They live in low bushes and tall grasses of wooded areas, waiting for warm-blooded animals to pass by. Deer ticks are most active in the summer.

To contract Lyme disease, you must be bitten by an infected deer tick. The bacteria enter your skin through the bite and eventually make their way into your bloodstream. Before bacteria can be transmitted, a deer tick must take a blood meal, which can take more than 48 hours of feeding. Only ticks that are attached to your skin and are feeding can transmit the bacteria. An attached tick that has a swollen appearance may indicate that enough time has elapsed to transmit bacteria. Removing the tick as soon as possible may prevent infection.

Risk factors

The most common risk factors for Lyme disease include:

- **Spending time in wooded or grassy areas.** In the US, deer ticks are most prevalent in the Northeast and Midwest regions and in northwestern states like Oregon and Washington. All have heavily wooded areas where deer ticks thrive. In these regions, children who spend a lot of time outdoors are especially at risk. So are people with outdoor occupations and those who live where mice are common. Deer ticks feed on mice, which are a prime reservoir for Lyme disease bacteria.

- **Having exposed skin.** Ticks attach easily to bare flesh. If you're in an area where ticks are common, protect yourself and your children by wearing long sleeves and long pants. Don't allow your pets to wander in tall weeds and grasses.

- **Not removing ticks promptly or properly.** Bacteria from a tick bite can enter your bloodstream only if the tick stays attached to your skin for 48 hours or longer. If you remove a tick within two days, your risk of acquiring Lyme disease is low.
Complications
Left untreated, Lyme disease can cause:

- Chronic joint inflammation (Lyme arthritis), particularly of the knee
- Neurological symptoms, such as facial palsy and neuropathy
- Cognitive defects, such as impaired memory
- Heart rhythm irregularities

Prevention
You can decrease your risk of getting Lyme disease with some simple precautions:

- **Wear long pants and sleeves.** When walking in wooded or grassy areas, wear shoes, long pants tucked into your socks, a long-sleeved shirt, a hat and gloves. Try to stick to trails and avoid walking through low bushes and long grass. Keep your dog on a leash.

- **Use insect repellents.** Apply an insect repellent with a 10-30% concentration of DEET to your skin and clothing. Choose the concentration based on the hours of protection you need - the higher the concentration of DEET, the longer you are protected. A 10% concentration protects you for about two hours. Keep in mind that chemical repellents can be toxic, and use only the amount needed for the time you'll be outdoors. Don't use DEET on the hands of young children or on infants younger than age 2 months. According to the Centers for Disease Control and Prevention, oil of lemon eucalyptus, a more natural product, offers the same protection as DEET when used in similar concentrations. Don't use this product on children younger than 3 years.

- **Do your best to tick-proof your yard.** Clear brush and leaves where ticks live. Keep woodpiles in sunny areas.

- **Check yourself, your children and your pets for ticks.** Be especially vigilant after spending time in wooded or grassy areas. Deer ticks are often no bigger than the head of a pin, so you may not discover them unless you search carefully. It's helpful to shower as soon as you come indoors. Ticks often remain on your skin for hours before attaching themselves. Showering and using a washcloth may be enough to remove any unattached ticks.

- **Don't assume you're immune.** Even if you've had Lyme disease before, you can get it again.

- **Remove a tick with tweezers.** Gently grasp the tick near its head or mouth. Don't squeeze or crush the tick, but pull carefully and steadily. Once you've removed the entire tick, dispose of it and apply antiseptic to the bite area.
Medical and Emergency Contact Information

Student/Participant name______________________________________________

Date____________________

Course(s) (check all that apply)
☐ FNRM 4515/5615 – Field Remote Sensing and Resource Survey
☐ FNRM 4511/5611 – Field Silviculture
☐ FNRM 4521/5621 – Field Applications of Timber Harvesting and Road Planning

Please list any special medical needs we should be aware of (e.g., bee/wasp sting allergy, epilepsy, diabetes, asthma) ________________________________________________________________

******************************************************************************

First Person to Contact__________________________________________________

Relationship __________________________________________________________

Home Phone Number ___________________ Cell Number ____________________

Work Phone Number ____________________________________________________

******************************************************************************

Second Person to Contact _______________________________________________

Relationship__________________________________________________________

Home Phone Number _________________ Cell Number ______________________

Work Phone Number ___________________________________________________

******************************************************************************

Third Person to Contact________________________________________________

Relationship___________________________________________________________

Home Phone Number _________________ Cell Number ______________________

Work Phone Number ___________________________________________________
UNIVERSITY OF MINNESOTA

RELEASE OF LIABILITY

I wish to participate in the field trip(s) associated with the Advanced Cloquet Session (FNRM 4511/5611, FNRM 4515/5615, and/or FNRM 4521/5621) offered by the University of Minnesota. I knowingly and voluntarily assume the risk of any injuries, regardless of severity, and including death, and all risk of damage to or loss of property that I may incur due to negligence or accidentally while I am participating in these field trips.

In consideration for the opportunity to participate in these field trips, I, on behalf of myself, my agents, heirs, and next of kin, hereby release the Regents of the University of Minnesota, its Department of Forest Resources, the Cloquet Forestry Center, and their respective employees, agents, members, and representatives and, if applicable, owners and lessors of premises used to conduct the event (“Releasees”) from any responsibility or liability for personal injury, including death, and damage to or loss of property that I may incur due to negligence of the groups named above or my own negligence or due to accidental occurrences while I am traveling to or from, engaged in, or otherwise participating in these field trips.

Governing Law and Jurisdiction. The laws of the state of Minnesota shall govern the validity, construction and enforceability of this Agreement, without giving effect to its conflict of laws principles. All suits, actions, claims and causes of action relating to the construction, validity, performance and enforcement of this Agreement shall be in the courts of the State of Minnesota.

I, the undersigned, am at least eighteen (18) years of age and competent to sign this release on my own behalf. I have read carefully and understand and agree to the terms and conditions of this release.

Signature

Date

Print Name

Phone Number

NOTICE

Participants under 18 years of age must have this release co-signed by their parent or guardian.

This is to certify that I, as parent/guardian with legal responsibility for this participant, do consent and agree to his/her release as provided above of all the Releasees, and, for myself, my heirs, assigns, and next of kin, I release and agree to indemnify and hold harmless the Releasees from any and all liabilities incident to my minor child’s involvement or participation in these programs as provided above, EVEN IF ARISING FROM THE NEGLIGENCE OF THE RELEASEES, to the fullest extent permitted by law.

Signature of Parent/Guardian

Date

Print Name

Phone Number
Photo Release Form

I, (please print your name)__________________________________________ , give the Department of Forest Resources and the Cloquet Forestry Center at the University of Minnesota, the right and permission to use my photograph obtained during FNRM 4511/5611 (Field Silviculture), FNRM 4515/5615 (Field Remote Sensing and Resource Survey), and/or FNRM 4521/5621 (Field Applications of Timber Harvesting and Road Planning) in its educational, promotional materials and publicity efforts. I understand that the photographs may be used in a publication, print ad, direct mail piece, electronic media (e.g., video, CD-ROM, Internet/WWW), or other form of promotion with or without my name. I release the Department of Forest Resources, the Cloquet Forestry Center, the photographer, their offices, employees, agents, and designees from liability for any violation of any personal or proprietary right I may have in connection with such use.

Signature:__________________________________________________________________
Address:___________________________________________________________________
City/State/Zip:_____________________________________________________________________
Phone:_____________________________________________________________________
Date:_____________________________________________________________________
Signature of guardian if under 18 years of age:__________________________________