

VIU Forest Orientation

a.k.a. Lost in the Woods

OBJECTIVE

To develop proficiency using an air photo and a map for field navigation. A secondary objective is to re-enforce traversing skills.

OVERVIEW

Preparation

- Determine orientation and scale of air photo
- Determine bearing and distances between assigned locations and fill-in sheet provided
- Transfer assigned locations to the map (optional)
- Determine your transportation arrangements

Field

- BEFORE starting, orient yourself with air photo and map for navigating in the woods
- Traverse and record field notes as you move between assigned locations
- Record the code word from each location

Office

- Plot the traverse
- Add additional detail and map data as needed

MATERIALS

Field:

- 1:10,000 map
- Aerial photo PIM 91-C-003-30 – scale & orientation to be determined
- 50m chain
- Silva Compass
- Clinometer (Suunto)
- Paper ribbon
- Field notebook and note paper
- Proper field gear (boots, raingear, hard hat)

Office:

- Protractor (Douglas Protractor preferred)
- Scale Ruler
- Calculator

PROCEDURE

Preparation

1. Confirm your transportation arrangements to the field – there is no bus available. You can obviously travel with someone other than your crew members. Also, confirm the location – end of Doumont Road (past the Wastelands Moto-Cross, at the end of the pavement).
2. Confirm your crew members and the location of your assigned photo points (refer to Crew Assignments). Also note the feature description for each of your photo points – it's good to know what you are “aiming for”.
3. Determine orientation (i.e. locate north) and scale of your photo. Use the map as a reference.
4. Determine the bearings between each photo point as per the assigned sequence (i.e. in the order you will be travelling). Use the following four methods (each is “testable”):
 - a) Provide a quick “eyeball estimate” of the bearing.
 - b) Use a Sylva field compass – align compass edge along direction of travel, twist the dial until the black lines on the compass are parallel with your north lines on the photo, then “read the compass” as usual.
 - c) Use the Douglass Protractor – “centre the compass” on your starting point, align the black lines on the compass so they are parallel with your north lines on the photo, lay a ruler along the line of travel and read the edge of the compass
 - d) Use the UTM coordinates and “do the math”.
5. Determine the estimated distance between the photo points.
 - a) Simply use the scale of the photo.
 - b) Optionally, calculate using the UTM coordinates ($a^2 + b^2 = c^2$)
6. Transfer the photo points to your map.
 - a) For points that are located at (near) features that are identifiable on both the air photo and the map (i.e. a road intersection) – just “eyeball it”
 - b) If such a feature is not near your point, use the Douglas protractor and scale ruler.

Field

Notes:

- Safety is paramount. There is no excuse for any unsafe practices. Some rules”
 - SIGN-IN with the Instructor upon arrival.
 - ALWAYS know where you are (i.e. relate you current position in the field to the photo and map.
 - ALWAYS know where the road is in case you need to leave earlier than expected.
 - STAY within eyeshot / earshot of your crew members
 - WALK safely – be sure of your footing; do not walk on logs

- DO NOT lean against, shake or knock over any snags – LOOK UP before leaning
 - SIGN-OUT when you return to the vehicles
 - Required: appropriate field gear, compass, chain, clinometers and note paper.
 - Bearings between locations do not follow trails or roads between photo points – be prepared to traverse through the bush.
 - Alternate responsibilities/tasks during the lab (i.e. everyone takes turns taking notes, using the compass, etc.)
1. **Sign-in with the Instructor** – provide name, license plate of vehicle and “time in”. This is a required safety check. **Failure to do so will result in a zero grade for this lab.** Sign-in sheet will be located on the windshield of the Instructor’s vehicle.
 2. Orient yourself with the photo, map and “the real world”. At all times know your precise location on the photo and map.
 3. Each crew will proceed to their first photo point and commence traversing from there.
 4. Check each other’s work – primarily ensure you are travelling on the correct bearing (within 2°).
 5. When you have travelled close to the estimated distance (i.e. estimated distance was 97m and you are now at 90m), keep your eyes open for the feature. It may be off to the side of your line of travel.
 6. At each photo point, you will find a ribbon that will have a key word written on it. Record the word and corresponding photo point number, but leave the ribbon as other crews may be assigned to the same spot.
 7. Record station, bearing, slope distance, and slope % and degrees on your field card. On the B page, map key features, such as roads, trails and creeks, as you traverse.
 8. **Sign-out with Instructor** upon completion of your traverse by entering the “time out”. Again, this is a required safety check. **Failure to do so will result in a zero grade for this lab.**

Drafting Assignment (to be done individually)

1. Plot the traverse (HD not SD) in ink at a scale of 1: 1,5000 or 2,000 or 2,500 (whichever best fills a 8.5” x 11” sheet of paper). You may wish to plot it first lightly in pencil and then “darken” your traverse route (with a pencil or pen). Label the photo points with the code word obtained from the field, also plot any features encountered during the traverse (e.g. roads, trails etc.). Be sure the map has all the necessary map components (e.g. Title, name, etc.). Neatness will count in marking.

Safety Tips for *Lost in the Woods*

- The first obvious tip is to drive safely to the field site
- Be sure to sign-in and sign-out with Instructor

- Always know where you are on the photo/map
 - always know your route back to the road (vehicle)
- Be aware of the time and be back no later than "quitting time" - even if you have not completed the route

- Always stay in sight of crew members
 - if you do get ~~lost~~ disoriented, simply stop and call out to others

- Take care when walking in the woods
 - Do not walk on fallen logs
 - Watch for "eye hazards"
 - Watch for overhead hazards, i.e. dead snags - (sigh ...) and guys, no macho contests of knocking them over

- If a crew member gets hurt (sprained ankle)
 - other crew members can walk the individual out, or
 - one crew member stays with individual and other gets help
 - call out to neighbouring crew or find Instructor

Orienteering Exercise

Crew # _____

Name: _____

Assigned Location #	Estimated Bearing	Estimated Distance
8th location:		
7th location:		
6th location:		
5th location:		
4th location:		
3rd location:		
2nd location:		
1st location:		

Lost in the Woods Orienteering

Eastings & Northings are $\pm 15\text{m}$

No.	Feature	Easting	Northing
21	Fd 9" - short spur rd	419,278	5,449,891
22	Fd 18"	419,563	5,449,668
23	Fd vet - reserve patch	419,390	5,449,679
24	Pl vet 18" - swamp	419,398	5,449,788
25	Fd vet 44"	419,151	5,449,919
26	Fd sapling - end overgrown spur	419,171	5,449,951
27	Dr - swamp/old rd	419,119	5,450,029
28	Fd 9" - short spur rd	419,033	5,449,962
29	Pl sapling - rd intersctn	419,047	5,449,781
30	Fd 14"	419,180	5,449,738
31	Dr 12" - forked	419,177	5,449,636
32	Fd sapling - trail intersctn	418,993	5,449,666
33	Fd 12"	418,944	5,449,599
34	Pl sapling	419,082	5,449,521
35	Fd vet (UTM suspect – need to check)	419,157	5,449,526
36	Dr 9"	419,418	5,449,562
37	small Hw	419,713	5,449,608
38	small willow	419,731	5,449,564
39	Fd 16"	419,596	5,449,382
40	Fd vet 32"	419,896	5,449,529
41	Fd 18"	419,992	5,449,512
42	3 Fd vets near bike trail	419,160	5,449,583
45	big Fd vet	420,218	5,449,546
46	Fd 16"	420,186	5,449,742
47	Fd 14"	419,888	5,449,933
48	Fd vet - 25"	419,569	5,449,951
49	Fd snag - trail close to crk	419,346	5,449,369
50	Fd 18" - opening along trail	419,289	5,449,396
51 a	Fd 14"	419,774	5,449,426
51 b	Fd vet 27"	420,094	5,449,548
52	Fd vet	419,960	5,449,688
53	Fd vet	420,044	5,449,734
54	Fd vet	419,705	5,449,483
55	Fd vet 20"	419,305	5,449,788
56	Fd 14"	420,288	5,449,666
57	Pl 13" sweep	420,057	5,449,583
58	Fd vet 24"	419,940	5,449,620
59	Fd vet 24"	419,586	5,449,460

60	Fd 18"	419,566	5,449,798
61	leaning Fd sapling (18")	419,537	5,449,880
62	Fd vet 34"	419,410	5,449,929
63	2 Fd vets	419,961	5,449,938
64	Cw 25"	420,164	5,449,820
65	Fd 20" near gate	419,309	5,449,624
66	Fd sapling - intersection	419,143	5,449,808
67	ocean spray shrub (photo?)	419,115	5,449,725
68	Fd vet 18"	419,330	5,449,849
69	Fd 26"	419,061	5,449,592
70	large Fd 56"	419,235	5,449,470
71			
72	Fd vet 27"	419,521	5,449,436
73	Fd vet	419,431	5,449,470
74	Fd vet 22"	419,317	5,449,520
75	Fd vet 20"	419,270	5,449,508
76			

Note:

Fd (56") means Douglas-fir that is 56" diameter at breast height

Vet means an older tree (i.e. verteran)