



VANCOUVER ISLAND  
UNIVERSITY

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SCIENCE & TECHNOLOGY

FORESTRY

## FRST 282 - Information Technology II

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Term: Spring

Lecture & Lab: TBA

Building: TBA

Instructors: TBA

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### **COURSE DESCRIPTION**

Forestry 282 is an introduction to computing software and hardware used in the forest industry. Topics include data collection using conventional survey and global position systems and mapping with forest engineering software and geographic information systems. (1:0:2)

### **SCOPE AND CREDIT**

This course is designed for second year students of the Forest Resources Technology Program. Credits: 1

### **COURSE FORMAT**

The focus of the course is on gaining basic skills in Softree RoadEng, integrating data with Arc GIS and GPS, and developing skills in querying silviculture databases. Total contact time is 3 hours per week of lab time. Some outside work is to be expected, so students must come to class prepared to go into the field.

### **TEXTS & SUPPLIES**

There are no textbooks to purchase. You may download the RoadEng Tutorial files at:

[http://www.softree.com/support/Support\\_Documentation.aspx](http://www.softree.com/support/Support_Documentation.aspx)

## LEARNING OUTCOMES

Upon successful completion of this course, students will be able to:

1. Define and use **technical terms** applicable to forest information technology in conversation with peers and in technical reports.
2. Collect **UTM coordinates** to georeference RoadEng data.
3. Enter data into RoadEng to **close and join traverses**.
4. Convert **traverse data** into **shape files**, transfer to Arc GIS and create a **Site Plan map**.
5. **Query** the University Woodlot GIS database to **estimate timber volumes** in assigned Spring project areas (assigned in FRST 242).
6. **Create resource maps** for the Spring project areas using the University Woodlot GIS database.
7. **Design** a road with consideration for **horizontal alignment** using RoadEng horizontal curves.
8. **Format** plans and profiles for printing.
9. Determine a **sustainable harvest level** for the VIU Woodlot using the ATLAS forest estate model.

In addition to the subject-specific learning outcomes listed above, specific program learning outcomes will be covered. Upon successful completion of this course students will have furthered their ability to:

1. **Use mathematics** appropriate to the field of forestry and forest road design and GIS.
2. **Use technology** (hardware and software) appropriate to the field of forest engineering and silviculture.
3. **Think creatively and flexibly** when designing and mapping forest roads and silviculture plans.

## EVALUATION (sample)

70%	Lab Assignments
20%	Quizzes (this may vary but 7 are planned)
10%	Professional Assessment

Quizzes will consist of short answer questions that will cover recent lecture and lab material. They will consist of terms, concepts or procedures learned about the Forestry software used during the labs. Any missed exams or quizzes will receive a grade of zero.

Marks for "Professionalism" relate to diligent work practices during scheduled lab times, engagement in classroom discussion, attendance or in assisting others when learning new software applications.

Further details regarding professionalism, grade scale breakout and academic policies can be found on the [Forestry Portal](#)

TENTATIVE SCHEDULE (sample)

Week	Lab
1	<b>Course Introduction.</b> <b>Lab 1:</b> Linking Traverse data and georeference traverse. Field
2	<b>Lab 2:</b> Close a traverse, link a traverse, adjust coordinates, Georeference in Computer Lab
3	<u>Quiz 1</u> <b>Lab 3:</b> Importing shapefiles into ArcGIS Create a site plan map - ArcMap -In Computer Lab
4	<u>Quiz 2</u> <b>Lab 4:</b> Generating a Resource Map for the Special Project
5	<b>Lab 5:</b> RoadEng - terminology and editing with mouse
6	<u>Quiz 3</u> <b>Lab 6:</b> RoadEng - Design Techniques Horizontal Alignment
7	<u>Quiz 4</u> <b>Lab 7:</b> RoadEng - Design Techniques Vertical Alignment
8	Study Days
9	<b>Lab 8:</b> RoadEng - Templates and Culverts
10	<b>Lab 9:</b> Woodlot for Windows
11	<b>Lab 10:</b> Woodlot for Windows + Quiz
12	FRST 234 Field School
13	<b>Lab 11:</b> RoadEng Multi Plot - Full Profile
14	<b>Lab 12:</b> RoadEng Multi Plot - Full Profile