GRANDE PRAIRIE REGIONAL COLLEGE
DEPARTMENT OF SCIENCE AND TECHNOLOGY
Bachelor of Applied Forest Resource Management

Forest Engineering Principles: FO3010 (Fall 2000) (3-0-3)

Prerequisite: FO1010-Orientation to forestry
FO2370-Mensuration I

Calender Descritpion: Design, layout and construction of forest roads and bridges, cut blocks, and logging operations. Transportation of raw materials. Environmental aspects f alteration of the forest environment. Hydraulics, power units, power transmission, equipment design and application. Compliance with regulations and constraints on private, industrial, and Crown lands. Maintenance and restoration following operations.

Course co-ordinator: Charles A. Backman
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Lectures: Tuesday, Thursday	08:30 – 09:50	Room. E305
Laboratory:		
Friday	14:30-17:20	Room: B305

(Some labs have been scheduled for all day Fridays. At the present time this includes the October 13 lab. Tentatively the November 3 and 17 labs will be all day Friday.)

Credit hours: (3 hour lecture – 0 hour seminar – 3 hour laboratory)

Co-lecturers: Series of guest lecturers with expertise which focus on each of the major components of the course curriculum

Course objectives: Upon successful completion of the course the student will have developed the following understanding:

1. Road layout and factors impacting on it
2. Road construction and maintenance techniques
3. Maintenance and restoration of roads following operations
4. Calculation of road construction and maintenance costs
5. Design and layout of cut blocks and logging operations
6. Compliance with regulations and constraints on private, Crown, and industrial lands
7. Equipment design and manufacture.

Text:

(1) BCIT, Road construction practices and procedures, Forest Engineering Technology Program, 1996;
(2) BCIT, Introduction to forest harvesting methods, Forest Engineering Technology Program, 1996;
(3) BCIT, Forest Road Deactivation, Forest Engineering Technology Program, 1997.

Other reading material:
Other reading material as assigned

Assignments are to be handed in on time. Late assignments will be accepted; but will be subjected to an automatic deduction of 10% per day that the assignment is late. Completion of all assignments and lab reports, the mid-term, and the project is necessary in order to pass the course. The final exam must be completed in order to be eligible for credit for this course. You are expected to participate in the laboratories. A pass grade in the laboratory component is essential to receive credit for the course.

9 - POINT GRADE	PERCENTAGE EQUIVALENT	DESIGNATION
9	90 - 100	
8	80 - 89	EXCELLENT
7	72 - 79	
6	65 - 71	GOOD
5	57 - 64	
4	50 - 56	PASS
3	45 - 49	FAIL
2	26 - 44	
1	0 - 25	

Week 1 (September 4)	Course introduction, expectations, laboratory schedule, etc.
Week 2 (September 11)	Surveying instruments
Week 3 (September 18)	Surveying instruments/Road lay-out
Week 4 (September 25)	Surveying instruments/Road construction and maintenance
Week 5 (October 2)	Road construction and maintenance
Week 6 (October 9)	Road construction and maintenance/(Mid-Term)
Week 7 (October 16)	Calculation of costs for road construction
Week 8 (October 23)	Calculation of costs for road construction
Week 9 (October 30)	Design and layout of cut blocks and logging operations
Week 10 (November 6)	Design and layout of cut blocks and logging operations
Week 11 (November 13)	Regulations affecting engineering and harvesting
Week 12 (November 20)	Regulations affecting engineering and harvesting

Week 13 (November 27)	Equipment manufacture
Week 14 (December 4)	Review

LABORATORY

Week 1 (September 4)	NO LAB
Week 2 (September 11)	Use of surveying equipment (I)
Week 3 (September 18)	Use of surveying equipment (II)
Week 4 (September 25)	Restoration of roads following operations/road construction
Week 5 (October 2)	NO LAB
Week 6 (October 9)	Road maintenance and bridges (2)
Week 7 (October 16)	Road construction and maintenance costs
Week 8 (October 23)	
Week 9 (October 30)	Cut block layout (2)
Week 10 (November 6)	
Week 11 (November 13)	Forest audit (2)
Week 12 (November 20)	
Week 13 (November 27)	Equipment manufacture
Week 14 (December 4)	Presentation