COURSE FOR3080: FOREST TECHNOLOGY APPLICATIONS

Level: Advanced

Theme: Technology and Applications

Prerequisite: None

Description: Students examine research and technological applications in the forest industry, and examine changing career opportunities in the forestry sector.

Parameters: Access to resources available from relevant industry and government organizations; e.g., Alberta Environmental Protection, Canadian Forestry Service, Alberta Research Council.

Curriculum and Assessment Standards

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
The student will: • describe different areas of forest research presently being conducted in Canada and Alberta	*Assessment of student achievement should be based on:* • identifying major areas of forest research being conducted in Canada and, where possible, Alberta. *Assessment Tool* *Forest Technology Applications, FOR3080–1* *Standard* *Identify six major areas of forest research to a standard of 3 on the rating scale* • given information regarding a current forest research project in Canada (e.g., enhanced utilization, forest management), summarizing: – research objectives and participating agencies – information-gathering strategies – project status and implications for forest industry. *Assessment Tool* *Forest Technology Applications, FOR3080–1* *Presentations/Reports, FORPRE–3* *Standard* *Summarize <u>one</u> current forest research project to a standard of 3 on the rating scale*	30

COURSE FOR3080: FOREST TECHNOLOGY APPLICATIONS (continued)

General Outcomes	Assessment Criteria and Conditions	Suggested Emphasis
The student will:	*Assessment of student achievement should be based on:*	
• cite examples of current and emerging technologies used in the forest industry	• completing a research project on three technologies and their application in different sectors of the forest industry; e.g., greenhouse/nursery operations, silviculture, forest harvest, wood production/ utilization, forest inventory/protection. For each technology, research to address: – specific problems/needs being addressed – basic components and principles of operation – advantages/disadvantages with respect to social, economic and environmental factors. *Assessment Tool* *Forest Technology Applications, FOR3080–1* *Sample Research Topics: Technology Application, FOR3080–2* *Research Process, CTSRES* *Standard* *Complete research on <u>three</u> technologies to a standard of 3 on the rating scale*	50
• explain career opportunities and trends relevant to the forestry sector	• given current information on career opportunities and trends in the forestry sector, completing a research project on one or more related career clusters. *Assessment Tool* *Forest Technology Applications, FOR3080–1* *Career Search: Advanced Level, FORCAR–3* *Standard* *Complete research to a standard of 3 on the rating scale*	20
• demonstrate basic competencies.	• observations of individual effort and interpersonal interaction during the learning process. *Assessment Tool* *Basic Competencies Reference Guide and any assessment tools noted above*	Integrated throughout

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Concept	Specific Outcomes	Notes
Research	*The student should:* • identify and describe different areas of forest research being conducted in Canada and Alberta; e.g.: – silviculture – harvesting systems – forest products – forest protection – wildlife inventories – ecological studies – integrated resource management • compare the goals and priorities of local agencies whose mandate is to conduct research related to forestry and forest ecosystems; e.g.: – individuals – corporations – colleges and universities – government agencies • explain the role of the Alberta Forest Research Advisory Council in coordinating forest research activities in Alberta • describe applications of data banks and information systems in making forest management decisions • identify major components of a research plan for the enhanced utilization and/or management of forests; e.g.: – goals and objectives of the plan – economic, political, scientific and related factors – methodologies and strategies – outcomes and types/kinds of data obtained – limitations of the plan, or information that may be lacking or incomplete.	Contact the Canadian Forestry Service (Natural Resources Canada) for current information (see Section I: Learning Resource Guide).
Technologies	• describe past and present applications of technology in the forest industry; e.g.: – greenhouse and nursery operations – silviculture – harvesting technologies – wood production and utilization – biotechnology	

COURSE FOR3080: FOREST TECHNOLOGY APPLICATIONS (continued)

Concept	Specific Outcomes	Notes
Technologies (continued)	*The student should:* • describe emerging applications of technology in the forest industry; e.g.: – pulping procedures – effluent treatment and pollution control • describe the advantages and disadvantages of a recent technology designed to enhance our utilization and/or management of forests; e.g.: – social – economic – environmental.	
Career Trends	• predict ways in which research, technology, social values and land use priorities may affect forest industries in the future • predict future careers and occupational opportunities within the forestry sector, and the education/training that may be required to gain employment and advance in related fields • describe general career areas and the range of occupational opportunities available within each; e.g.: – forest inventory – forest biology/ecology – forest protection – forest harvest – forest products industry – forest management • describe one or more employment opportunities in forestry; e.g.: – job description/working conditions – entry requirements/competencies – educational/training opportunities – opportunity for advancement – opportunity for self-employment and entrepreneurship.	Review National Occupational Profiles (NOC). Contact the "Career Hotline" (telephone 1–800–661–3753). Interview persons employed in the forestry sector.