DEPARTMENT OF SCIENCE AND TECHNOLOGY

Bachelor of Applied Forest Resource Management

Forest Ecosystem Management: FO3670

Transfer Status: Under discussion

Pre-requisite: Silviculture I FO3130

Calendar Description:
Defining the concept of ecosystem management. Historical evolution of forest management. The Alberta Conservation Strategy provides the impetus for Ecosystem Management in Alberta; wildlife concerns; watershed management; other values of the forest. Application of Ecosystem Management; variable retention harvesting and restoration silviculture versus traditional silviculture systems.

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Lectures: Tuesdays/Thursdays 1:00 – 2:20 p.m.

Texts: **Required:**
Creating a Forest for the 21st Century. 1996. Edited by Kathryn A. Kohm and Jerry F. Franklin. Island Press, Washington, D.C. 475 p.

Textbooks Available in the Library:

Forest Ecology. 1996. J.P. Kimmins. Published by Prentice Hall.
Forest Ecosystems: Concept and Management. 1985. Waring, R.H. and W.H. Schlesinger. Published by Academic Press.
Forest Ecosystems. 1994. D. Perry. University of John Hopkins Press.
The Forest Certification Handbook. 1996. C. Upton and S. Bass. St. Lucie Press, Delray Beach, Florida.
Conservation Biology Principles for Forested Landscapes. 1998. Edited by Joan Voller and Scott Harrison. UBC Press.

Scientific Journals and Periodicals Available in the Library
Canadian Journal of Forest Research
Forestry Chronicle
Northern Journal of Applied Forestry
Silviculture
Forestry

Course evaluation:

A loosely-structured set of tests, projects, and assignments designed to develop critical thinking about ecosystem management issues.

Each of the following components in the course will comprise a portion of the course mark.

Class discussion: (15%)
- given readings on a range of ecosystem management issues, you will have the opportunity to express yourself freely during class

Response journal: (35%)
- given readings, you will have the opportunity to comment intelligently in a journal that will be reviewed periodically

Topics that may be included as items in the journal are:
- following a field trip to the Foothills Model Forest, you will write a report answering discussion questions
- taking available information for the GPRC training forest, you will write recommendations for considering other forest values in the management of the Training Forest

Term Project: (25%)
- after choosing from a range of ecosystem management issues, you will be given the opportunity to write a term paper and present your topic in class

Final exam: (25%)
- exam questions will be essay-type, allowing you to express the full breadth of your knowledge gained during the course

Due dates for the above course evaluation components are as follows:

Class discussion:	during class time
Response journal:	to be handed in on the following dates 25 January; 22 February; 29 March
Term project:	presentations during the week of 20 March Hand in paper on 22 March
Final exam:	During final exam period

Lecture/Discussion Topics	Timing
What is an ecosystem? ▪ structural components ▪ landscape and global ecology	Week 1 Week 2
The nature of systems ▪ stages of stand development ▪ patterns of succession ▪ environmental and ecosystem characteristics of stands	Week 3
Sustainable forest management planning	Week 4

Wildlife conservation and management
▪ utilization of wildlife
  ▪ consumptive vs non-consumptive activities
  ▪ relation between wildlife and habitat
  ▪ movement of organisms
▪ major wildlife habitats
▪ interspecific competition
▪ population interaction influences
	Week 5
	
	Week 6

The ecosystem approach ▪ variable retention harvesting systems ▪ long rotations, lifeboating ▪ design of a variable retention system ▪ management issues in variable retention ▪ evidence in favour of retention ▪ difficulties in implementing retention systems	Week 7 Week 8

Evolution of ecosystem management in Alberta
▪ The Alberta Forest Conservation Strategy
  ▪ strategies
  ▪ principles
	Week 9

Fire and ecosystem management ▪ historical development of policy ▪ the role of fire ▪ fire dependent ecosystems	Week 10
Other types of disturbance ▪ wind, flooding, insect and disease	Week 11
Term project presentations	Week 11
Ecosystem management planning Enhanced forest management planning ▪ discussion of effects of genetic programs, stand tending	Week 12
Landscape and global ecology	Week 13
Certification ▪ possible routes, advantages and disadvantages	Week 14