

JAN 18 2001

**GRANDE PRAIRIE REGIONAL COLLEGE**  
**DEPARTMENT OF SCIENCE AND TECHNOLOGY**

**Bachelor of Applied Forest Resource Management**

**Wood Technology and Utilization: FO 4200**

**Pre-requisite:** FO 1200

**Calendar Description:**

Chemical and physical properties of wood; species identification; primary, secondary, and other uses of wood: lumber, plywood, chip and particle board, pulp and paper, panel products, wood fibre products, and reconstituted wood products. Introduction to integrated wood products.

**Instructor:** Jennifer Hacking  
Office: J221  
Phone: 539-2873  
e-mail: [jhacking@gprc.ab.ca](mailto:jhacking@gprc.ab.ca)

Lectures: Tuesdays/Thursdays 11:30 – 12:50  
Labs: Mondays 1:00 – 2:50

**Texts: Required:**  
Haygreen, John G., and Jim L. Bowyer, 1996. **Forest Products and Wood Science**. Iowa State University Press.

**Recommended:**  
Hoadley, R. Bruce, 1990. **Identifying Wood: Accurate Results with Simple Tools**, The Taunton Press, Inc., Connecticut.

**Course Evaluation:**

Course evaluation will consist of the following components:

Assignments (3)	25%
Lab reports (3 or 4)	25%
Midterm exam	20%
Final exam	30%

Due dates for assignments and lab reports will be given when they are assigned. The midterm date is negotiable within reason; the final exam will be held in the exam period in April.

**Barring tragic circumstances, late assignments and lab reports will not be accepted, marked, or included in the course mark.**



- iii. Determination of allowable stresses in lumber (visual versus machine stress grades)
- D. Other wood properties
  - i. Thermal properties
  - ii. Energy content for fuels
  - iii. Electrical properties

### III. Production of major forest products

- A. Biomass of tree & relation to utilization
- B. Roundwood products HB Ch. 13
  - i. Logs
  - ii. Poles & piling
- C. Lumber-based products HB Ch. 14
  - i. Structural lumber
  - ii. Lumber for remanufacturing industries
  - iii. Glu-lam beams & other engineering products
- D. Veneer based products HB Ch. 14
  - i. Plywood
  - ii. Laminated veneer lumber
  - iii. Decorative veneer products
- E. Flake and particle-board based products HB Ch. 15
  - i. Particleboard & OSB/waferboard
- F. Fiber based products HB Ch. 16
  - i. Paper
  - ii. Hardboard & medium density fibreboard
  - iii. Insulation board
- G. Wood & energy HB Ch. 17
- H. Deterioration of wood & wood products HB Ch. 11
- I. Wood preservatives & finishes

### IV. The connection between growth, silviculture, & wood quality

- A. Review of biology of tree growth and wood formation HB Ch. 1: pp. 8-19
- B. Effects on silviculture & genetics of wood quality HB Ch. 12

### V. Forest products marketing

- A. A primer in marketing TBA
- B. Differences among the products TBA