

12/96

Grande Prairie Regional College
Department of Science & Technology
Course Outline
Fall 1996

Course: Plant Physiology (BT 2400)
Instructor: Dr. Weixing Tan
Office: J210
Phone: 539-2793
Prerequisites: BI 1080 and CH 1610

Course Description:

This course examines how plants grow, develop and respond to environmental and cultural conditions (treatments) in terms of physiological processes, using woody plants as primary examples. In addition to the basic concepts and theories, the course emphasizes the practical applications in forest resources management. The lectures and laboratory exercises (each three hours per week) cover the following specific topics: 1) plant physiology and its role in forestry; 2) structure of woody plants; 3) water and minerals; 4) energy and carbon (e.g., photosynthesis, respiration, translocation and storage); 5) regulation of growth and development (e.g. hormones); 6) stress physiology; and 7) physiology of seeds and seedlings.

Textbook: Kramer PJ and Kozlowski TT. Physiology of Woody Plants. Academic Press, New York.

References: Salisbury FB and Ross CW. Plant Physiology.
(available 4th Edition. Wadsworth Publisher, Belmont,
in library) California.

Kozlowski TT and Kramer PJ. The Physiological Ecology of Woody Plants. Academic Press, New York.

Evaluation:	Lecture/Lab Quizzes	10%
	Lab Exam	10%
	Lab Reports	30%
	Midterm Exam	20%
	Final Exam	30%
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Requirements: Regular attendance to lectures and participation in classroom discussion are highly recommended since missing classes can be hazardous to your grades.

Grande Prairie Regional College
Department of Science & Technology
Laboratory Schedule Fall 1996

Course: Plant Physiology (BT 2400)
Instructor: Dr. Weixing Tan
Assistant: Rick Scott

WK	DATE	LAB #	DESCRIPTION
1	10/09	1	Introduction
2	17/09	2	Cell and Tissue Water Relations
3	24/09	3	Mineral Nutrition -- Starting
4	01/10	4	Transpiration and Effects of Drought, Light and Wind
5	08/10	5	(1) Photosynthesis -- Video Demonstration and Discussion
		3	(2) Initiation of nutrient treatment
6	15/10	6	Growth Rate and Photosynthetic Efficiency and Capacity in Willows -- in-lab work sheet
7	22/10	3	Mineral Nutrition -- 1st Harvesting
8	29/10	7	Hormones and Growth of Cucumber Roots and Shoots
9	05/11	7	Lab 7 (continuing)
10	12/11	3	Mineral Nutrition -- Final Harvesting
11	19/11	8	Growth Analysis
12	26/11		Open Session
13	03/12		Lab Exam

The detailed lab instruction will be distributed before each lab.

Requirements: Presence at each laboratory for this course is compulsory. A passing grade in the lab is required to pass the course. A medical note from your Doctor(s) is required for all excused absences. Mark will be deducted on the overdue lab report(s) at a rate of 10% per day.

Each student is expected to supply the following at each lab: calculator, pencils, eraser, lab coat, some paper, and binder to hold data sheets.