



COURSE CALENDAR DESCRIPTION:

A survey of economically important plants and their products. The history of plant use, plants in folklore and medicine, fermentation and viticulture, domestication of plants, and forestry are the major topics covered. Chemical, structural and nutritional aspects of plant products are also discussed.

INSTRUCTOR:

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OFFICE HOURS:

By email appointment.

LECTURES:

Tuesdays and Thursdays, 11:30 AM - 12:45 PM

TEXTBOOK:

There is no textbook for this course. A copy of the **BIOL 1300 Course Notes** should be purchased from the *University Bookstore*. Do **not** purchase or borrow notes from previous years; the course material has changed recently.

MARKING SCHEME:

Midterm Exam* (35 minutes)	30%
Final Exam** (2 hours)	70%

* During class time, in lecture classroom.

** Date, time and location scheduled by University.

Both examinations are multiple choice:

- Midterm exam, 40 questions.
- Final exam, 100 questions.

The final examination will include only material covered after the midterm.

MATERIAL COVERED BY EXAMS:

You are responsible for all material covered in the **BIOL 1300 Course Notes** and in lecture. In addition, "**Internet Assignments**" will occasionally be given at the beginning of class. You are responsible for Internet Assignment material as well; questions related to these assignments will appear on the examinations.

ATTENDANCE:

The University of Manitoba Academic Regulations state that "Regular attendance is expected of all students in all courses".

PLAGIARISM AND CHEATING:

Plagiarism, cheating or impersonation in the completion of assignments, and at examinations, are very serious offences. Refer to the University of Manitoba Academic Regulations for definitions and penalties.

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COURSE OUTLINE:

PLANT CLASSIFICATION

- history of plant classification.
- plant species.
- evolutionary relationships of flowering plants.
- flowering plants: monocots and dicots.

THE DOMESTICATION OF PLANTS

- history of plant domestication.
- origin of the world's crop plants.
- human influences on plants and ecosystems.

CEREAL CROPS

- origins, characteristics and uses.
- characteristics of the grass family (Poaceae).
- major cereals of the world (wheat, rice, corn).
- other important cereal crops.

FRUIT AND NUTS

- definition and origins.
- major plant families: rose, tomato, gourd, heath, citrus, soapberry, mulberry.
- other important temperate and tropical fruits.
- nuts: definition and important crops.

LEGUMES OR PULSES

- characteristics of the legume family (Fabaceae).
- some economically important legumes.

VEGETABLES

- definitions and origins.
- root crops: bulbs, tubers, corms, tropical true roots, temperate true roots.
- green vegetables: mustard and sunflower families; other important crops.

SPICES AND FLAVOURINGS

- definition; spices in history.
- temperate spices: mint and carrot families; other important spices.
- tropical spices: important spices.

SUGARS AND SWEETENERS

- sugar, starch, cellulose and bioethanol.
- sugar cane, beets, palms, maple sugar; sweeteners.

PLANT OILS: FATS, SOAPS AND WAXES

- definition and origins: oils, fats, soaps and waxes.
- biodiesel fuel.
- major plant oils and waxes.

LATEX (RUBBER) PRODUCTS

- definition and origin of latex.
- major plant sources: rubber and other latex.

PLANT FIBERS

- definitions and properties.
- seed fibers; bast or stem fibers; leaf or hard fibers.
- cellulose and wood fiber.

CAFFEINATED BEVERAGES

- history of plant beverages.
- coffee, tea, cocoa or chocolate, cola.

FERMENTED (ALCOHOLIC) BEVERAGES

- wine: whites and reds.
- major wine producing regions.
- beer and beer-making.
- distillation and distilled beverages.

MEDICINAL PLANTS

- history of plants in medicine.
- plant biochemistry.
- some important plant medicines: quinine, ephedrine, reserpine, digoxin, periwinkle, hormones from plants, ginseng, coca, laxatives, opium, tropane alkaloids.

PSYCHOACTIVE DRUGS

- properties of psychoactive drugs.
- some important plant psychoactive drugs: betel, tobacco, morning glory, peyote, cannabis, hallucinogenic mushrooms.