

DEPARTMENT OF RENEWABLE RESOURCES

UNIVERSITY OF ALBERTA

Renewable Resources

RenR 120 – Woody Plants I

Fall 2014 Syllabus

Instructor:

Dr. Simon Landhäusser
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Office Hours: by appointment (please e-mail me)

Lectures: T R 09:30 – 10:50, 2-35 CAB

Laboratories: Location

M	1400 - 1750	GSB 769
T	1400 - 1750	GSB 769
W	1400 - 1750	GSB 769
R	1400 - 1750	GSB 769

<u>TA</u>	<u>phone</u>	<u>office</u>	<u>email</u>
Fran Leishman (Lab coordinator)	(780) 492 6827	4-29 ESB	fran.leishman@ualberta.ca
Alison Bijman (Monday)		4-52 ESB	bijman@ualberta.ca
Meghan Jacklin (Monday)			mjacklin@ualberta.ca
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Kate Melnik (Thursday)		4-52 ESB	kmelmik@ualberta.ca
Kyle Le (Thursday)			kdle@ualberta.ca

Course Description :

An introduction to the biology, the basic terminology, and the taxonomy of major plant families will be presented in the lecture periods. The identification of plant families, the use of keys, and the recognition of trees and shrubs and some herbaceous indicator plants is taught and practiced in the laboratory period. Excursions to the field will take place during some laboratory sessions; however most labs will be held indoors.

A shortened version of the lecture notes (with/without the photographs/figures) will be made available on the eClass site, either before or after each lecture. Remember the power point notes used in the lectures are used as a guide to teaching and learning and do not constitute all the information that a student will be expected to learn, **nor** are they a substitute for attending the lecture.

Objectives

1. To develop skills in the identification and field recognition of trees and shrubs and other forest indicator species using dichotomous identification keys, learning the technical terminology and recognizing such characteristics as overall physiognomy or form, flowers, leaf shape and arrangements, twig, bud and bark characteristics, branching habit, and fruit types.
2. To become familiar with the basic biology of trees, shrubs, and a selection of non-woody plants. General areas discussed will be morphology of vegetative and reproductive parts, fruit types, ecology, indicator species, systematics and taxonomy, winter condition, and a series of lectures on the important native and introduced trees and shrubs of the various forest regions of Canada.

3. To become familiar with some of the basic silvical and ecological characteristics of the most important trees and shrubs of North America (focused on Canada) and to learn about the major forest regions and the species assemblages within North America with a focus on Canada.

Specific Objectives:

- a. Students should be able to identify and name each plant covered in laboratory, either by flower, fruit, cone, leaf, twig, bark, habit, or any combination of these or other characteristics.
- b. Students should know and be able to list characteristics useful in distinguishing major plant families and genera.
- c. Students should know the scientific and common names of each plant studied in laboratory. Students should be familiar with the basic ecology and range of each species covered in the lab and lecture through the reading materials provided in the required text books.

LABORATORY SESSIONS

When a Laboratory section is full (max 25 students) there will be NO SWITCHING of lab sections by a student, unless another person is found who is willing to swap and TAs are notified one week prior.

Nine lab quizzes (20% of the final grade) will be distributed over the entire lab; one quiz during each laboratory period. The quizzes will emphasize the details about identification and ecology of plants studied during previous lectures and laboratory sessions **and will be cumulative**. Each student will be expected to identify fresh or preserved specimens, to describe key characteristics of particular species and contrast species, genera or families. Students may also be asked to indicate geographic distributions and habitat requirements of targeted species. Students will also be expected to describe biology and taxonomy of major plant families learned during lecture and lab sessions. In addition to the quizzes, students will have to individually identify two unknown species using a dichotomous key each laboratory session (20 % of the final grade).

The two worst lab quizzes and keying exercise (**combined ONLY from a single day**) will be dropped. There will be no make-up quizzes or make-up keying exercises; any quiz/exercise missed (for any reason – excused or not) must count towards the dropped. **There will be absolutely no exceptions to this quiz/exercise procedure.**

Each student will be required to make a collection of 30 plants for this course as well as write a short paper. Details, requirements, and due dates will be outlined in the laboratories. The plant collection will be worth 15% of the final grade, while the paper will be worth 10% the final grade.

GRADING:

Lab Assignments

Seven out of nine quizzes** (total)	20%
Seven out of nine keying exercises** (total)	20%
Paper (silvics of a tree or shrub)	10%
<u>Plant collection</u>	<u>15%</u>
Lab Total	65%

**** The dropped quiz and keying exercise have to be on the same day**

Final exam **35%**

DEADLINES and important DUE DATES:

Lab Assignments

Paper (silvics of a tree or shrub)	Week of October 20th in lab
Plant collection	Week of Nov 17th in lab

Final exam

Final exam (lab exercise 3 hrs)	Week of December 1st
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Please note: The Instructors can neither give permission to a student to miss the final exam nor grant a request for a deferred final exam. Students are encouraged to check exam schedules prior to making travel or event plans. The decision to grant a deferred final exam can only be granted by their own Faculty (e.g. ALES students go to 231 GSB to obtain an exam deferral, Science students go to 1-001 CCIS). Acceptable reasons for an excused absence may include illness or bereavement, and unacceptable reasons include weddings, travel arrangements or being on vacation. The University policy on deferred exams can be found in Section 23.3.2 of the University Calendar. It includes specific instructions on how to obtain a deferral.

Plagiarism and Cheating

All students at the University of Alberta are subject to the Code of Student Behaviour, as outlined in the 2012/13 Calendar. Please familiarize yourself with it and ensure that you do not participate in any inappropriate behaviour as defined by the Code. The Code of Student Behaviour is also accessible through <http://www.uofaweb.ualberta.ca/governance/StudentAppealsCheatsheet.cfm>

Key components of the code include the following statements:

30.3.2(1) No Student shall submit the words, ideas, images or data of another person as the Student's own in any academic writing, essay, thesis, project, assignment, presentation or poster in a course or program of study.

30.3.2(2) c No Student shall represent another's substantial editorial or compositional assistance on an assignment as the Student's own work.

No Student shall represent or attempt to represent him or herself as another or have or attempt to have himself or herself represented by another in the taking of an examination, preparation of a paper or other similar activity.

Speak with the instructor or TA's if you have questions or concerns about the code, particularly as it pertains to assignments, internet and library research, use of previous class notes and interviews or discussions with others.

Professionalism and Classroom Rules of Engagement

Meeting deadlines is an important part of becoming a professional. If you miss the final exam or the deadlines for submissions of the paper and/or herbarium you will be given a mark of 0% unless you can provide a valid medical reason (if possible accompanied by a medical note). In the absence of a medical note, or where the absence is due to a reason other than illness, please provide other documentation or obtain either a Statutory Declaration or a Faculty Form to outline the reasons for the absence. In order to pass this course you will have to have a **minimum** of 60% of the total marks.

No electronic devices, including calculators, are permitted for any exercises. This means you cannot use your own computer, electronic organizer or cell phone. No pictures, audio or video recordings may be taken during lab or lecture presentation without the knowledge and written consent of the instructor. If required, lab quizzes will be done on university computers. The lab quizzes can potentially be open-book, however, that will be announced prior to the exam, **but note** electronic notes are not allowed – for open book lab quizzes you may only bring approved textbooks, paper notes, or keys. **This class has NO group assignments. Individual papers are to be an individual effort.** No trading of word processing files, images or graphs and no copying of **ANY** parts of assignments is permitted. The submission of words, ideas, images or data of another person or group as their own will be considered **plagiarism** (see also above). The TA's are instructed to report any evidence or incidences of plagiarism or cheating in this course.

Tentative Lecture Schedule

Date		Topic
Sept 4		Introduction to woody plants and dendrology; syllabus and course requirements; how to succeed in the labs; trips; grading
Sept 9		General plant morphology and terminology - Growth strategies, vegetative reproduction
Sept 11		General plant morphology and terminology - Growth strategies, vegetative reproduction
Sept 16		General plant reproduction, flower morphology and terminology - sexual reproduction
Sept 18		General plant reproduction, flower morphology and terminology - sexual reproduction
Sept 23		Fruits, fruit types, inflorescence/infructescence types
Sept 25		Ecology, Site conditions and tolerance and adaptations
Sept 30		NO LECTURE
Oct 2		Soil-plant interactions
Oct 7		Disturbance and forest succession
Oct 9		Plant distributions, life history strategies
Oct 14		Introduction to plant taxonomy (vascular plants)
Oct 16		Gymnosperms – overview of families and vegetative morphology. Family characteristics cones and seeds; trends in the evolution of conifers
Oct 21		Forest of North America Vegetation of North America – Introduction, History and Climate (Part 1)
Oct 23		Forest of North America Vegetation of North America – Introduction, History and Climate (Part 2)
Oct 28		Angiosperms - overview of selected families and their vegetative and reproductive morphology, the Cronquist system (Liliopsida (Monocotyledons) and Magnoliopsida (Dicotyledons)
Oct 30		Liliidae (Liliaceae, Iridaceae, Orchidaceae)
Nov 4		Commelinidae (Juncaceae, Cyperaceae, Poaceae, Typhaceae)
Nov 6		Magnoliidae (Magnoliaceae, Ranunculaceae) Hamamelidae (Ulmaceae, Fagaceae, Betulaceae)
Nov 11		NO LECTURE
Nov 13		Dilleniidae (Tiliaceae, Violaceae, Salicaceae, Cruciferae (Brassicaceae), Ericaceae)
Nov 18		Rosidae (Saxifragaceae, Rosaceae, Fabaceae, Aceraceae, Geraniaceae, Umbelliferae (Apiaceae) (Part 1)
Nov 20		Rosidae (Saxifragaceae, Rosaceae, Fabaceae, Aceraceae, Geraniaceae, Umbelliferae (Apiaceae) (Part 2)
Nov 25		Asteridae (Labiatae (Lamiaceae), Scrophulariaceae; Caprifoliaceae, Asteraceae (Part 1)
Nov 27		Asteridae (Labiatae (Lamiaceae), Scrophulariaceae; Caprifoliaceae, Asteraceae (Part 2)
Dec 2		NO LECTURE

Tentative Lab Schedule:

Date	Topic
Sept 8-11	Lab requirements, procedures, terminology, and the evolution of plants from seedless vascular plants to seed plants
Sept 15-18	1 st quiz; Mosses, Lichens, Lycopodiaceae, Polypodiaceae, and Equisetaceae
Sept 22-25	2 nd quiz; Field trip campus; Gymnosperms: Cupressaceae, Pinaceae, Ginkgoaceae, and Taxaceae
Sept 29- Oct 2	3 rd quiz; Field trip campus; Deciduous Angiosperms (trees): Aceraceae, Betulaceae, Fagaceae, Oleaceae, Salicaceae, Tiliaceae, Ulmaceae
Oct 6-9	4 th quiz; Review of terminology Commelinidae: Poaceae, Cyperaceae, Juncaeeae, Typhaceae
Oct 13-16	Thanksgiving - NO LABS
Oct 20-23	5 th quiz; Liliaceae, Orchidaceae, Ranunculaceae, Violaceae, Cruciferae (Brassicaceae)
Oct 27-30	6 th quiz; Ericaceae, Saxifragaceae, Araliaceae, Cornaceae, Boraginaceae, Elaeagnaceae, Grossulariaceae, Onagraceae
Nov 3-6	7 th quiz; Umbelliferae (Apiaceae), Rosaceae, Fabaceae
Nov 10-13	Remembrance Day - NO LABS
Nov 17-20	8 th quiz; Labiatae (Lamiaceae), Scrophulariaceae; Caprifoliaceae, Fumariaceae, and Santalaceae
Nov 24-27	9 th quiz; Asteraceae, Pyrolaceae, and Rubiaceae
Dec 1-4	LAB FINAL (3 hrs.)