

**DATE: January 6, 2021**

**TO:** All Diploma Students enrolled in Course ENTM0610 (Beekeeping)

**FR:** Rob Currie Rob.Currie@UManitoba.ca

**RE:** **Diploma Course ENTM0610 Beekeeping Course Outline and Written Assignment**

### **Primary Lecturers**

1. Rob Currie, Instructor, Dept of Entomology, U. Manitoba. 214 Animal Science/Entomology (204) 474-6020 Rob.Currie@UManitoba.ca
2. Rhéal Lafrenière, Provincial Apiarist, Manitoba Agriculture, Food and Rural Initiatives, Room 204, 545 University Crescent, Agricultural Services Complex, University of Manitoba, Winnipeg, MB R3T 5S6. Phone: (204) 945-4825. Rheal.Lafreniere@gov.mb.ca
3. Derek Micholson, KRTP (Knowledge Research Transfer Program) Lead, Manitoba Beekeepers Association Derek.Micholson@gmail.com

### **Course Theme**

This course includes instruction in the beekeeping management in Manitoba primarily as it relates to honey bee management with some instruction and a written paper on alfalfa leafcutter bee industry.

This series of lectures and demonstrations will deal with the nature of beekeeping and its literature; the life history, anatomy, and social behaviour of commercially important bees; economics; how to manage colonies of bees; equipment and site selection; pollen and nectar producing plants, pests and nectar flows; seasonal management; pests, diseases and regulations; honey houses; extracting equipment; grading and marketing honey and beeswax.

### **Lectures:**

One per week during regularly slotted time.

There will be an introductory session for diploma students who are enrolled in the course on January 20<sup>th</sup> at 7 pm

### **I. Beekeeping:**

Weekly lectures in this course begin on **Wednesday, 27 January, 2021 and will be held in synchronous format through UMLearn on WebEx**

No classes will be held on the 17th of February (Mid Term Break). One optional class (a “hands-on” session in the apiary will occur in April or early May for interested students). A text, entitled “The Prairie Beekeeping Manual” (or an equivalent), can be obtained through the Manitoba Honey Producers Co-op at 625 Roseberry or there is a free version on line [https://openlibrary.org/books/OL25675244M/Beekeeping\\_in\\_western\\_Canada](https://openlibrary.org/books/OL25675244M/Beekeeping_in_western_Canada)

The text book is optional but important resource material to supplement the lecture portion of the course.

## II. Alfalfa Leafcutter Bee Industry Assignment<sup>†</sup>:

You are asked to write a paper summarizing the alfalfa leafcutter bee industry in terms of how it works specifically as it relates to the industry Manitoba or Saskatchewan. The essay should be **a maximum of 5 pages** of typed text and cover the following areas: 1) reasons for using this bee to pollinate alfalfa; 2) the bees' life cycle; 3) equipment used in all phases of a typical operation; 4) the importance of proper bee stocking rates to bee production and crop pollination; 5) the annual cycle of management and 6) major parasite and disease problems in Manitoba and how to deal with them.

This assignment should **not** be done in collaboration with other students in the course.

Please submit one typed copy (double spaced, 1 inch margins, standard type) of your paper to R. W. Turrie (218 Animal Science/Entomology Building) on or before **12:00 p.m., Thursday, 11 Feb, 2021**. Papers should be typed, using a standard double spaced font, on 8.5 x 11 inch paper with 1 inch margins with references cited in the text. One letter grade will be taken off for papers that are submitted after the deadline and for each additional class period (week) that it is late.

Copies of “Alfalfa Leafcutter Bee Management in Western Canada”, “Controlling Chalkbrood Disease in Alfalfa Leafcutter Bees”, “Alfalfa Seed and Leafcutting Bee Production in Saskatchewan” and CheckPoints, Dec. 3, 1993: “Paraformaldehyde Approved for Decontaminating Leafcutting Bee Cells” will be placed on reserve in the Agriculture Library.

Use of other resource material is encouraged and rewarded but it must be properly referenced. If you are using internet sources you should ensure that the information you are citing is **from a reliable source** and **relevant to managing leafcutter bees in Manitoba**.

### Other contacts are:

1. Rhéal Lafrenière<sup>\*</sup>, Provincial Apiarist, Manitoba Agriculture, Food and Rural Initiatives. Phone: (204) 945-4825.

<sup>\*</sup>Agricultural Services Complex, U. of M. Campus, Winnipeg, MB R3T 5S6.

<sup>\*</sup>Assignments will be graded and returned before the voluntary withdrawal date.

Assignments must be written in the student's own words. Plagiarism is a serious offence and severe penalties can be assessed for plagiarism. <sup>†</sup>Students should consult the section on plagiarism and cheating found in the University Calendar.

## Beekeeping - 2021 Lecture Outline

See UMLearn for a detailed schedule

### Topics Covered

1. Introduction: What is beekeeping?: Honey bees
2. What is beekeeping?: Leafcutter bees!
3. Economics, beekeeping equipment and its construction
4. Life history and anatomy (3 castes)
5. Choosing an apiary site and arranging hives
6. Diseases, pests and regulations
7. Hive and field behaviour of bees
8. Spring management I - Care and hiving of packages and care of wintered colonies
9. Spring management II - Plants, feeding, queen checks, etc.
10. Queen rearing techniques
11. Summer management - Plants, nectar flows, supering, etc.
12. Fall management - Killing bees vs. wintering procedures
13. Honey handling - honey house, equipment, etc.
14. Review of course
15. Tour of Manitoba Co-operative Honey Producers Ltd.

### Mechanisms of Assessment:

<b>Grading:</b>	(1) Leafcutter bee paper due, February 6, 2017*	40%
	(2) Practice take home exam (submit for certificate-optional)	0%
	(2) Final Exam (Beekeeping) TBA	<u>60%</u>
	TOTAL	100%