



**University of Manitoba**  
**Faculty of Agricultural & Food Sciences**  
**Department of Biosystems Engineering**

## Course Details

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**Course Title & Number:** BIOE 0700 Agricultural Buildings and Environments

**Number of Credit Hours:** 4

**Class Times & Days of Week:** Lectures: T R 10:00-11:15

Labs: T 8:30-9:45

**Location for classes/labs/tutorials:** Lectures: WebEx (through (UM Learn)

Labs: WebEx

## Pre-Requisites:

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### Course Description:

Know the components of farm buildings, including materials and construction techniques, contracting details and site planning. To provide instruction in the principles of environmental control within agricultural confinement structures. Topics include ideal environmental control within agricultural confinement structures. Topics include ideal control determination, heat loss, occurrence of condensation, the effects of various construction techniques, and the intended goals of forced ventilation.

## Instructor Information

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**Instructor(s) Name:** Instructor Derek Inglis

I prefer to be addressed as Derek.

**Office Location:** A206 Agricultural Engineering Building

**Office Hours or Availability:** Please make an appointment if you wish to meet with me outside of class or laboratory hours.

**Office Phone No.** 204-474-7964

**Email:** Derek.Inglis@umanitoba.ca

**Contact:** You may contact me by phone, by email, or in person. Emails sent after business hours will not likely be answered until the next day.

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## **General Course Information**

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Agricultural animals are largely raised in confined spaces. The design and operation of these spaces are critical to the success of an animal husbandry operation. Students will explore the design features of such buildings and how to operate the buildings to deal with issues related to moisture and temperature control as well as issues relating to the care and maintenance of the building itself.

### **How does this course fit into the curriculum?**

This is an optional course in the Agricultural Diploma program.

## **Course Goals**

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The intent of this course is:

- To introduce students to selection and design of agricultural buildings, exploring issues such as size, space, material constraints.
- To provide students with an opportunity to meet with industry representatives and explore the operation of actual structures.
- To provide students with an opportunity to explore issues relation to balancing heat and moisture loads caused by animal husbandry operations.
- To provide students with instruction in the basics of professional written and oral communication skills, and with opportunities to effectively communicate a design solution.

## **Intended Learning Outcomes**

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At the conclusion of the course, the student should be able to:

1. Evaluate alternatives for agricultural buildings
  2. Explain principles of operation for humidity and temperature control.
  3. Evaluate the integrity of a structure and apply principles of proper maintenance to the building.
  4. Apply principles of safety engineering and human factors engineering to the management and operation of animal husbandry operations
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## **Textbook, Readings, Materials**

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**Required textbook** – None

**Optional textbook** – Ventilation for Poultry and Livestock Facilities. Publication 833.  
www.ontario.ca/omafra

**Supplementary readings** – Course notes will be provided to the students through UMLearn

## **Using Copyrighted Material**

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Please respect copyright. We will use copyrighted content in this course. The content used is appropriately acknowledged and is copied in accordance with copyright laws and University guidelines. Copyrighted works, including those created by us, are made available for private study and research and must not be distributed in any format without permission.

## **Recording Class Lectures**

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Derek Inglis and the University of Manitoba hold copyright over the course materials, presentations and lectures that form part of this course. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission from Derek Inglis. Course materials (both paper and digital) are for the participant's private study and research.

## **Course Technology**

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This course is delivered on-line through WebEx, which is a web conferencing tool that is integrated within UM Learn. The instructions for using WebEx can be found on UM Learn. All course materials, including lecture notes and lab videos, will be available through UM Learn.

## **Class Communication**

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The University requires all students to activate an official University email account. For full details of the Electronic Communication with Students please visit:

[http://umanitoba.ca/admin/governance/media/Electronic\\_Communication\\_with\\_Students\\_Policy\\_-\\_2013\\_09\\_01\\_RF.pdf](http://umanitoba.ca/admin/governance/media/Electronic_Communication_with_Students_Policy_-_2013_09_01_RF.pdf)

([http://umanitoba.ca/admin/governance/governing\\_documents/community/electronic\\_communication\\_with\\_students\\_policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html))

Please note that all communication between you as a student and your instructors/TAs must comply with the electronic communication with student policy

([http://umanitoba.ca/admin/governance/governing\\_documents/community/electronic\\_communication\\_with\\_students\\_policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html)). You are required to obtain and use your U of M email account for all communication between yourself and the university.

## **Expectations: You Can Expect Us To**

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Learning is most effective when both the teacher and the student are engaged in the subject material. The role of the teacher, therefore, is to create an environment that facilitates student engagement and learning. In this course, some dissemination of information will occur using the traditional lecture format. However, a substantial portion of the content will be distributed as reading materials, which will be covered using

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classroom discussion or other learning activities. You can expect us to endeavour to create an active learning environment.

## **Expectations: We Expect You To**

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We expect you to be in attendance, and on time, for all scheduled lectures and labs. If you must be absent, please show us the courtesy of sending an e-mail notifying us of your absence. To benefit the most from this class, you must be willing to participate in class discussions. Therefore, you will be expected to prepare for class by reading the assigned materials.

### **Academic Integrity:**

Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty. Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room. Exam cheating can also include exam impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty. Students should acquaint themselves with the University's policy on plagiarism, cheating, exam impersonation and duplicate submission. Electronic detection tools may be used to screen assignments in cases of suspected plagiarism.

## **Students Accessibility Services**

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### **Student Accessibility Services**

If you are a student with a disability, please contact SAS for academic accommodation supports and services such as note-taking, interpreting, assistive technology and exam accommodations. Students who have, or think they may have, a disability (e.g. mental illness, learning, medical, hearing, injury-related, visual) are invited to contact SAS to arrange a confidential consultation.

*Student Accessibility Services* <http://umanitoba.ca/student/saa/accessibility/>

520 University Centre

204 474 7423

[Student\\_accessibility@umanitoba.ca](mailto:Student_accessibility@umanitoba.ca)

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**Important Dates:**

October 12: No class – Thanksgiving Day  
November 11: No class – Remembrance Day  
November 20: Last date for Voluntary Withdrawal for fall term courses.  
October 30: Midterm

**Course Evaluation Methods**

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The basis of evaluation is established by agreement at the beginning of each term. Weights assigned to various components of work are:

Midterm Examination	20%
Lab Assignments	40%
Final Examination	40%

**Grading**

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The grading scale used for this course is shown below.

Letter Grade	Percentage out of 100
A+	93-100
A	85-92
B+	78-84
B	72-77
C+	66-71
C	60-65
D	50-59
F	Less than 50

**Assignment Grading Times**

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The last date for Voluntary Withdrawal (VW) from the course is November 18, 2016. Students can expect to receive grades for several of the tutorial assignments, the safety engineering midterm, the guard design written report, and several of the design assignments prior to the VW date. Grades for the remaining tutorial assignments, design assignments, the ethics article, and the human factors engineering midterm will be available prior to the end of the term. Grades for the team design project will not be available to students until the end of the examination period.

**Assignment Extension and Late Submission Policy**

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Deadlines are a reality in the world of engineering; we expect assignments to be completed on time. Assignments submitted after the due date will be docked 10% per day. All assignments must be submitted to pass the course. There will be no “make-up” midterms; students who miss a midterm with a reasonable explanation will have the value of the final examination increased by the appropriate percentage.

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