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

Course Details

Course Title & Number:	BIOE 0600 Farm Machinery
Number of Credit Hours:	4
Class Times & Days of Week:	Lectures: MWF 10:30-11:20 Labs: W 2:30-3:15
Location for classes/labs/tutorials:	Lectures: WebEx (through (UM Learn) Labs: WebEx

Pre-Requisites: None

Course Description:
To teach Diploma Agriculture students the principles of operation of basic farm implements with emphasis on seeding, tillage, haying and harvest machines including their selection, adjustment, efficiency and cost of operation with respect to test data.

Instructor Information

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.

General Course Information

Lecture topics will include Farm Safety, Tillage equipment choices and characteristics, Principles of Hitching, Transmission of Power, Hydraulics including basic principles, components (pumps and valves) and different systems (open and closed centre, load sensing), seeding equipment and haying equipment, sprayers including components, calibration, sprayer pumps and nozzles, harvesting equipment (swathers, conventional and rotary combines, principles of combine adjustment and operation) and machinery costs.

How does this course fit into the curriculum?
This is a required course in the Agricultural Diploma program.

Course Goals

The intent of this course is:

- To introduce students to the operating principles and design of agricultural equipment
- To explore issues with proper calibration and operation of equipment to maximise productivity and cost efficiency
- To provide students with issues surrounding equipment and operator safety including legal responsibilities and rights

Intended Learning Outcomes

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

1. Evaluate alternatives for agricultural equipment
2. Explain principles relating to calibration and optimal operation of equipment.
3. Apply principles of safety engineering and human factors engineering to the management and operation of agricultural equipment

Textbook, Readings, Materials

Required textbook – None

Supplementary readings – Course notes will be provided to the students through UMLearn
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Using Copyrighted Material

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

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

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

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

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). 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

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

Expectations: We Expect You To

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

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

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

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Course Evaluation Methods

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

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

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

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.