Instructor Information

Name & Title          Dr. Don Petkau, P.Eng., P.Ag.
Office Location       E1-358 EITC
Office Phone Number   474-7443
Email Address         Don.Petkau@umanitoba.ca
Office Hours          By appointment

Course Philosophy

Students' Learning Responsibilities
I expect you to be in attendance, and on time, for all scheduled lectures and labs. If you must be absent, please show me the courtesy of sending an e-mail notifying me of your absence. I expect assignments to be completed on time. Finally, please respect both me and your classmates by turning off your cell phone during class time. Laptops may be used during lectures only if you are taking notes on the laptop.

Who should take this course?
This is an elective course for students Faculty of Agricultural & Food Sciences. It may also be taken by Biosystems Engineering students as an elective in the Agricultural Specialization. This course will also be used as a prerequisite of a special projects course to be offered in the winter term.

Course Description/Objectives

Undergraduate Calendar Description

Course Objectives
The intent of this course is to acquaint students with the function, safe operation, selection, and management of machines used in agricultural production.
Grade Evaluation

<table>
<thead>
<tr>
<th>Component</th>
<th>Weight</th>
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<tbody>
<tr>
<td>Term Assignments</td>
<td>20%</td>
</tr>
<tr>
<td>Midterm #1</td>
<td>15%</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>15%</td>
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<tr>
<td>Final Examination</td>
<td>50%</td>
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Important Dates

<table>
<thead>
<tr>
<th>Event</th>
<th>Date</th>
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<tbody>
<tr>
<td>Midterm #1</td>
<td>October 11, 2017</td>
</tr>
<tr>
<td>Midterm #2</td>
<td>November 15, 2017</td>
</tr>
<tr>
<td>Voluntary withdrawal date</td>
<td>November 17, 2017</td>
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Texts, Readings, Materials

Textbook(s)

Course Policies

Late Assignments
Assignments submitted after the due date will be docked 10% per school day.

Missed Assignments
Will receive a zero grade.

Missed Midterm Examinations
Students who miss a midterm examination with reasonable explanation (i.e., valid medical certificate or compassionate reason such as death of an immediate family member) will be eligible to write the midterm examination at a later date. Students who miss a midterm examination without a valid reason will receive a grade of zero for the examination.

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.

Use of Third Party Detection and Submission Tools
Electronic detection tools may be used to screen assignments in cases of suspected plagiarism.

Course Content

1. Introduction
2. Introductory Concepts of Precision Agriculture
3. Introductory Concepts of the Internet of Things (IoT)
4. Tractor Hitching, Traction, and Testing
5. Soil Tillage
6. Crop Planting
7. Chemical Application
8. Hay and Forage Harvesting
9. Grain Harvesting
10. Vegetable Harvesting
11. Conveying of Agricultural Materials
12. Machinery Selection and Management
13. Machinery Safety