

CR 260

Integrated Crop Management

3 Credits

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CR 260 Version: 9



Integrated Crop Management

Calendar Description

This course provides an overall view of Integrated Crop Management (ICM). ICM is a systematic approach to crop management in which many aspects of crop production are integrated to accomplish efficient crop production. Students build upon the knowledge acquired previously in the traditional disciplines of soil and plant science and move towards the goal of understanding the keys to successful, sustainable cropping systems.

Rationale

This is a required course in the Crop Technology program.

Prerequisites

Students are expected to be in the second year or third year of an Agricultural Sciences Program.

Co-Requisites

None

Course Learning Outcomes

Upon successful completion of this course, students will be able to

- 1. discuss and explain what society's social acceptance is, and appraise the social implications of crop production decisions in Western Canada.**

Objectives:

- a. define social license.
- b. identify social concerns of current agricultural practices.
- c. define and discuss both the social appeal and implications of widespread adoption of "Organic Farming".
- d. ability to respond to critics using knowledge gained from other courses

- 2. design a farm production plan that accounts for the three pillars of sustainability.**

Objectives:

- a. select appropriate sustainability goals for an assigned model farm.

- b. analyze and critically evaluate past production practices on the assigned model farm.
 - c. develop a Best Management Practices plan for the assigned model farm.
 - d. produce a professional document that could be presented as a crop production plan for the assigned model farm.
- 3. predict various crop responses to water and nutrient availability along with the timing of applications.**

Objectives:

- a. recall various crop water and nutritional requirements for optimal production.
 - b. recognize seasonal moisture and climate changes and respond appropriately with timely fertility and crop protection products.
 - c. provide correct advice for BMP's regarding irrigation and manure management.
- 4. analyze soil test reports, crop and pesticide rotations, and past management decisions and critically evaluate how these analyses affect the cropping system.**

Objectives:

- a. recall important information from a soil test report and interpret that information correctly
 - b. determine appropriate fertilizer recommendations from soil test results
 - c. determine the appropriate soil test depths for a soil, based on knowledge and history of the soil in question.
- 5. summarize the history of genetic manipulation, recall various genetic manipulation methods, and be able to state an informed defense of GMO crops in present day agriculture.**

Objectives:

- a. clarify and classify the language and terminology of crop genetics.
 - b. identify positive outcomes of historical crop genetic advancements.
 - c. explain in non-technical terms the benefits of genetic manipulations to society.
- 6. recognize how crop rotations affect cropping systems and conceptualize a crop rotation strategy that optimizes crop production within the three pillars.**

Objective:

- a. predict the responses of new crops grown on past crops
- b. recognize pest issues and select rotations that help mitigate pest issues
- c. outline soil water and soil nutrient supply benefits through crop rotations

Resource Materials

All required and referenced reading material for this course can be accessed via the internet on the course D2L (Desire to Learn) web page.

Conduct of Course

This course is offered as approximately 42 hours of instructional lecture format and approximately 13 hours of interactive lab time to augment the assigned learning activities and time-sensitive readings. In addition, the course includes student discussions and debates of the relevant information as an additional learning tool. Labs or lecture time may be substituted with field trips, guest speakers, or alternative seminars if opportunities exist.

Evaluation Procedures

Lakeland College is committed to the highest academic standards. Students are expected to be familiar with Lakeland College policies related to academic conduct and academic honesty and to abide by these policies. Violations of these policies are considered to be serious and may result in suspension or expulsion from the College.

The final grade is an aggregate of the following components:

Midterm	15%
Lab Assignments	40%
In-class Assignments & Quizzes	20%
Final	25%
Total	100 %

Grade Equivalents and Course Pass Requirements

A minimum grade of D (50%) (1.00) is required to pass this course.

Letter	F	D	D+	C-	C	C+	B-	B	B+	A-	A	A+
Percent Range	0-49	50-52	53-56	57-59	60-64	65-69	70-74	75-79	80-84	85-89	90-94	95-100
Points	0.00	1.00	1.30	1.70	2.00	2.30	2.70	3.00	3.30	3.70	4.00	4.00

Students must maintain a cumulative grade of C (GPA - Grade Point Average of 2.00) in order to qualify to graduate.

Attendance

Classroom and laboratory attendance is considered vital to the learning process and as significant to the students' evaluation as examinations and reports.

- a. Students having a combination of excused and/or unexcused absence of 20 percent or higher for the scheduled course hours will be required to withdraw and will automatically receive a "RW" (required withdrawal) for the course, regardless of any other evaluation results. (RW is a failing grade.)
- b. An excused absence is one that is verified with your Instructor. Verification should be prior to the absence or the next class day following the absence. Verification of the absence may take the form of a note from your doctor/College nurse regarding illness, or a note from another Instructor regarding a field trip or other activity, or authorization by your Instructor. An unexcused absence is anything NOT verified by the instructor prior to the absence or the next class day following the absence.

NOTE: Any exceptions to the above attendance policy (e.g. timetable conflicts, work-related issues) must be approved in writing by the Department Chair prior to the beginning of the course.

It is the students' responsibility to know their own absentee record.

Normal hours are 8:30 a.m. to 6:30 p.m., with potential for evening courses, exams or extended field trips. Students are expected to be available for classes during these times.

Course Units/Topics

The following topics and activities listed in this section are subject to change based on circumstances that are reasonably beyond the instructor's control.

Course Topics

1. Social license to farm
2. Crop water relationships
3. Weather data driven decision making
4. Soil test analysis and decision making
5. Crop responses to fertility and application timing
6. Seeding system interactions on crop production
7. CropChoices\$ software introduction and use
8. BMP plan for a model farm
9. Case studies



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