



**University of Manitoba
Faculty of Agricultural and Food Sciences
Department of Animal Science**

ANSC 4640 SWINE PRODUCTION SYSTEMS

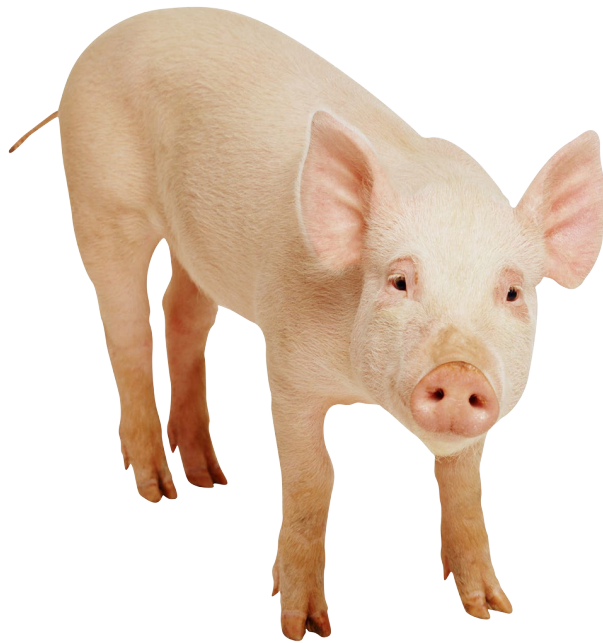


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COURSE DETAILS

Course Title & Number:	ANSC 4640 Syllabus
Number of Credit Hours:	3.0
Class Times & Days of Week:	12:30 – 1:20 pm on Monday, Wednesday and Friday
Location for classes	Online
Location for labs/tutorials:	Online
Lab times & Days of Week:	2:30 – 5:15 pm
Prerequisites:	ANSC 2500 Animal Production

Instructor Contact Information

Instructor(s) Name:	Dr. C.M. Nyachoti	Dr. G.N. Gozho
Preferred Form of Address	Dr. Nyachoti	Dr. Gozho
Office Location:	224 Animal Science Building	226 Animal Science Building
Office Phone No.	Phone: 204 474-7323	Phone: 204 474-9443
E-mail	Martin.Nyachoti@umanitoba.ca	George.Gozho@umanitoba.ca
	All e-mail communication must conform to the Communicating with Students university policy. (Please familiarize yourself with the policy). Use the subject line to state the reason for your e-mail and add the course number.	
Office Hours or Availability:	No set time or hours. You can e-mail the instructor between 8:30 and 5:00 pm. Depending on the issue(s) to be discussed, a telephone call can be arranged.	
Contact:	Use e-mail communication as primary means of communication But arrangements can be made to set up a conference call via WebEx, or Microsoft Teams	

Course Description

ANSC 4640 Swine Production systems

Describes the swine industry in terms of size, complexity and relationship to the economy and gives an understanding of the breeding, feeding, management and marketing practices in a modern production unit. It outlines swine production systems of relevance to the agricultural industry. Open only to students holding at least 60 credit hours. Prerequisite: ANSC 2500

General Course Information

The swine industry is an important sector in Manitoba. It requires the engagement of people with relevant training, knowledge, and skills to contribute to the provincial economy. This course offers an opportunity for training to those who aspire to work directly in the swine industry or related industries such as the feed industry.

Course Goals

The objectives of the courses are:

- a) Introduce students to the basic principles and practical skills in swine production systems with particular reference to swine production and management.
- b) List and explain the management practices used in modern pork production.
- c) Discuss these management practices in relation to their impact on the profitability of swine production systems.
- d) To develop critical thinking skills so that students can make management decisions based on science-based animal husbandry principles.

Intended Learning Outcomes

At the end of the course, students will be able to:

- a) Describe the structure of the swine industry in Manitoba and Canada.
- b) Understand the inputs, components, and sale and marketing of Canadian pork products.
- c) Analyze the issues that face the Canadian swine industry and its socio-economic role to Canada.
- d) Identify factors that influence the performance of pigs in different classes.
- e) Apply the skills and knowledge gained from this course to evaluate swine enterprises and offer solutions to solve problems and improve profitability.
- f) Develop the ability to formulate simple swine diets.

Using Copyrighted Material

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

Recording Class Lectures

Recorded course material is meant for your private study and research and must not be shared on public electronic platforms.

Textbook, Readings, Materials

Supplementary Reading Material

McGlone, J. & Pond, W. Pig Production: Biological Principles & Applications, 2003. Thomson Delmar Learning

Whittemore, C. The Science and Practice of Pig Production. 2nd Ed. 1998. Blackwell Scientific.
Close, W.H., and Cole, D.J.A. 2000. Nutrition of Sows and Boars. Nottingham University Press, Nottingham, UK.

Patience, J. F. (Ed). Feed Efficiency in Swine, 2012. ISBN: 978-90-8686-756-1 (Online)

Lee Chiba Sustainable Swine Nutrition, 2013. Wiley InterScience (Online service)

Mavromichalis, I: Applied Nutrition for Young Pigs, 2006. Wallingford, UK Cambridge, MA CABI

National Research Council. Nutrient Requirements of Swine, 2012. 11th ed. Washington, D.C. Nat. Academies Press

Varley, M.A., Wiseman, J. The Weaner Pig: Nutrition and Management, 2001. Wallingford, UK, CABI

Kyriazakis, I. & Whittemore, C.T. The Science & Practice of Pig Production 2006. 2nd Ed. Ames, Iowa Blackwell Pub.

Other publications:

The Canadian Swine Forum

Canadian Hog Journal

Manitoba Pork Council publications

Manitoba Swine Seminar, Banff Pork Seminar, etc.

Peer reviewed scientific journal articles

Course Technology

Lecture notes will be posted on UMLearn

Class Communication

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

[http://umanitoba.ca/admin/governance/media/Electronic Communication with Students Policy - 2014 06 05.pdf](http://umanitoba.ca/admin/governance/media/Electronic_Communication_with_Students_Policy_-_2014_06_05.pdf)

Please note that all communication between you as a student and the instructors of the course 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 e-mail account for all communication between yourself and the university.

Expectations: I expect you to:

I expect you to:

- a) Attend class on time so we start on time.
- b) Ask for help when you need assistance.
- c) Submit your own work for individual assignments and to work together in a team for group assigned projects.
- d) To act in a civil, respectful, and responsible manner toward all members of the U of M community.
- e) I will treat you with respect and would appreciate the same courtesy in return. See [Respectful Work and Learning Environment Policy](#).

Academic Integrity:

Group and individual assignments are expected as part of fulfilling the requirements of this course.

- (i) Group projects are subject to the rules of academic dishonesty;
- (ii) Group members must ensure that a group project adheres to the principles of academic integrity.
- (iii) Group assignments are meant to help develop an appreciation of team work in addition to academic knowledge and skills, therefore, complaints from other group members for not cooperating or doing the assigned tasks may result in dismissal from a group. In such a situation the student will not be awarded any marks nor offered to do an individual project.
- (iv) For individual assignments, while students can discuss the assignment with their colleagues, they should complete the assignment independently.

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

Phone: 204 474 7423 E-mail: Student_accessibility@umanitoba.ca

What to Expect from the Instructors

Deliver course material mainly in the form of PowerPoint lectures in class.

Provide a respectful learning environment

Answer your questions honestly and where if information to answer your questions in not

Provide opportunities for discussion during class or labs

Provide a summary of key points.

Class Schedule

This schedule is subject to change at the discretion of the instructor and/or based on the learning needs of the students but such changes are subject to Section 2.8 of the – [ROASS-Procedure](#)). If you miss lecture(s), it is your responsibility to obtain any information announced in class.

MONTH	DATES	LECTURE TOPIC / UNIT
January	24	Introductions
	26, 28	Swine Production Systems
	31	Swine Industry in Manitoba (Guest Lecture)
February	2, 4	Environmental Requirements of Swine: Thermal Comfort; Codes of Practice; Handling
	7	Biosecurity (Guest Lecture)
	9	Principles of Genetics and Genetic Improvement
	11	Reproduction – Principles Revisited
	14	Reproduction – Principles Revisited
	16	Feeds & Feeding; Evaluation of pig feed ingredients
	18	Feeds & Feeding; Evaluation of pig feed ingredients
	February	21, 22-25
	28	Test 1
March	2, 4	Management & Nutrition of the Breeding Herd: Replacement Stock
	7	Management & Nutrition of the Breeding Herd: Replacement Stock
	9	Management & Nutrition – Farrowing & Lactation
	11, 14	Management & Nutrition of the Suckling and Weaned Pig
	16	Management & Nutrition of Growing - Finishing Pig
	18	Management & Nutrition of Growing - Finishing Pig
	21, 23	Carcass and meat quality (Guest Lecture)
	25	Manure Management (Guest lecture)
	28	Marketing and Quality Assurance (Guest lecture)
April	30	Term Test 2
	4,6	Disease & Sanitation (Guest Lecture)

	8	Sustainability of Production / Future Trends (Guest Lecture)
April	11,13,15, 18, 20,22	Case studies
	25	Course Review

Laboratory Expectations

The labs and tutorials offer opportunities for experiential learning as well as use case studies to help students to develop critical thinking skills. Experiential learning activities are in the form of demonstrations. Some of the take home or in-class assignments will be used to assess students' participation and comprehension.

Lab Schedule

DATE	LAB	LABORATORY TITLE
Jan	25	No lab/ tutorial
Feb	1	Feed identification and lab analyses*
	8	Glenlea Micro feed mill tour / lecture**
	15	Diet formulation
	22	Mid-term Break, no classes
March	1	Glenlea Swine Unit Virtual Tour**
	8	Discussion about presentations and rubric
	15	TBA (Virtual barn visit?)**
	22	Class (Individual) Presentations
	29	Class (Individual) Presentations
April	5,12,19	No lab/ tutorial
		*Group assignment **Short individual assignment

Important Dates

January 24, 2022 – First day of classes

February 21, 2021- Louis Riel Day

February 22 – 25 – Winter Term Break

April 15, 2022 – Good Friday no classes

April 25, 2022 Last day of classes

See the university website for a comprehensive list of dates

Course Evaluation Methods

Test will contain sections with multiple choice, short and long answer questions. No make up exams or assignment will be allowed, except for absence that has been cleared by the instructor. For such absence one of the following would be expected prior to writing a make -up exam or assignment such as: 1) medical emergency-a written and signed note from a medical doctor is required, or 2) Schedule clashes – A letter from faculty in charge of the course or university sanctioned activity.

The due dates for the various components of the grade are given below:

Due Date:	Assessment Tool	Value of Final Grade
See listing	Laboratory/Tutorial assignments	10%
March 22 and 29	Class presentation	5%
	Presentation outline Presentation	15%
February 28	Term test 1	20%
March 25	Term test 2	20%
TBA	Final examination (University schedule)	30%

Grading

The grading scale for the course is given below:

Letter Grade	%	Grade Point Range	Final Grade Point
A+	91-100	4.25-4.5	4.5
A	84-90	3.75-4.24	4.0
B+	77-83	3.25-3.74	3.5
B	70-76	2.75-3.24	3.0
C+	65-69	2.25-2.74	2.5
C	60-64	2.0-2.24	2.0
D	50-59	Less than 2.0	1.0
F	Less than 50		0

Assignment Descriptions

Presentation Assignment Topics

1. Managing sows for a long productive life
2. Feeding and management of nursery pigs.

3. African swine fever and other foreign animal diseases – implications for Canadian swine industry
4. The importance of water in swine production
5. Animal welfare and societal issues in swine production
6. Housing and management of swine – issues and possible solutions.
7. Voluntary feed intake in swine – its significance and related challenges.
8. Manipulating pork quality: nutritional and management strategies.
9. The impact of pork production on the environment.
10. The impact of mycotoxin contamination of feed ingredients on pork production.

Assessment criteria: Topic Presentations

The following parameters will be used in evaluating your presentation:

- 1. Length of presentation**
 - a. Total of 20 minutes broken down into 15 minutes of presentation and 5 minutes of questions and discussions
- 2. Quality of presentation**
 - a. Quality of slides
 - b. Organization of presentation
 - c. Delivery of presentation
- 3. Demonstration of in - depth understanding of the subject matter**
 - a. Inclusion of pertinent information
 - b. Attempts to critically comment on the subject matter
 - c. Not afraid to speculate
- 4. Ability to stimulate discussion and to answer questions**
- 5. Please note the following:**
 - a. Presentation must focus on what happens on a commercial hog farm
 - b. Presentation outline must be submitted to the instructors by March 10 if your presentation date is March 23, or March 17 if your presentation date is March 30.

Assignment Extension and Late Submission Policy

- Due dates will be given on all assignments. If you have problems completing the assignment by the due date please let the instructor know before the date if possible.
- All students are encouraged to complete all the assignments because every component contributes to the final grade