



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

COURSE DETAILS

Course Title & Number:	ANSC 7140 Animal Science Seminar MSc
Number of Credit Hours:	3
Class Times & Days of Week:	Tuesday. Fall: 10:00 - 11:15am Winter: 11:30am - 12:45pm
Location for classes/labs/tutorials:	Online
Pre-Requisites:	Currently enrolled in an Animal Science graduate MSc program.

Instructor Contact Information

Instructor(s) Name:	ANSC 7140: Dr. Chengbo Yang
Office Location:	Dr. Yang, Rm 227
Office Hours or Availability:	Usually available before or after class or contact to set up an appointment.
Office Phone No.	Dr. Yang, 204 474 8188
Email:	Chengbo.yang@umanitoba.ca

Course description

Animal Science Seminar Series includes sessions that are devoted to research and extension or update/review of topics in animal-agriculture.

In addition to scheduled student presentations, the seminar course will include guest speakers internal and external to the faculty/university.

This course also encompasses the Annual Animal Science Special Seminar in Honour of Dr. T.K. (Stan) Cheung during the Winter term. This special seminar is intended to invite prominent scientists, industry or government representatives in the area of animal science to be guest speakers and provide the opportunity for the speaker to meet, converse and interact with the students of this class.

Course Goals

The program also creates a mutually supportive and positive learning environment so graduate students can share their results, obtain feedback on their work, and improve their presentation and communication skills. This course will facilitate the development of scholarly writing skills, presentation skills related to dissemination of scientific research to the wider scientific community and industry stakeholders. This course will also develop the skills required to chair scientific seminars and presentations.

Academic Regulations and Policy and Use of Copyrighted Material

Students are directed to the statements on “Cheating, Plagiarism and Fraud” and “Copyright Act” under the Student Affairs website at:

http://umanitoba.ca/student/resource/student_advocacy/cheating_plagiarism_fraud.html.

and the University’s Copyright Office website at:

<http://umanitoba.ca/copyright/>

All students are required to familiarize themselves with the many forms that plagiarism can take. Plagiarism is a serious offense and it will not be tolerated.

Recording Class Lectures

No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission of the instructors. Course materials (both paper and digital) are for the participant’s private study and research.

Course Technology

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical and legal manner. Students can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Disability Services. Student should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline “gaming” during scheduled class time.

Supplementary course guidelines/materials will be provided through UM Learn.

Class Communication

The University requires all students to activate an official University email account.

Please note that all communication between the instructors and you as a student 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:

Attendance in Animal Science Graduate Seminar Series and the Faculty of Agriculture Seminar Series is compulsory for all students who are currently enrolled in MSc program in the Department of Animal Science. On occasions wherein a student is unable to attend the seminar, an attendance exemption form (see UM Learn for template) must be fill out and signed by graduate student before submitting to course instructors. For planned exemption requests (i.e. sample collection, conference attendance, academic exchange, etc.) the form must be submitted in advance; and for exemption requests for any reason beyond student’s control (i.e. illness, emergency, etc.) the form must be submitted within a week following the missed session. These records will be retained to monitor annual attendance for each graduate student.

Academic Integrity:

- Guidelines for course requirements and chairperson duties can be found on UM Learn
- All work is to be completed independently unless otherwise specified.

Students Accessibility Services

Student Accessibility Services

If you are a student with a disability, please contact Student Accessibility Services (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

Class Schedule

The class schedule will be distributed at the beginning of term with this document. The schedule is subject to change at the discretion of the instructor and/or needs of the students.

Faculty seminars are held once a month on Wednesdays from 3:00 – 4:30pm in the Carolyn Sifton Lecture Theatre, 130 Agriculture (venue subject to change). During these weeks no Animal Science Seminar will occur unless under extenuating circumstances where additional presentation periods are required.

Grading

Grading for this course is Pass/Fail.

Assignment Descriptions

Over the course of their graduate MSc program students are required to complete four course requirements.

It is advised that students complete one assignment per semester. Guidelines for completion of each activity can be found on UM Learn

Course requirements:

- Literature review: 3000 – 5000 words. Students must submit a short outline of the proposed literature review (~10 lines) to the instructor at the start of the term and the assignment is due on the last day of that specific term. Upon return of the assignment, students are required to resubmit corrected assignment to the instructors within 30

days. Assignment to be submitted via email to the instructors. Requests for extensions to be made via email to the instructors.

- Extension presentation: Presentation of an animal science related topic with the intended audience of industry/producers.
- Poster presentation: Poster presentation (including oral presentation) of student's research data.
- Scientific presentation: Oral presentation of student's research data.

Course Evaluation Methods

A combination of written and oral evaluations will be utilized.

- For the literature review, written comments/evaluation will be provided by the instructors on the returned document.
- For the extension, scientific and poster presentations, students will receive oral evaluations from a student evaluator at the time of the presentation. Written evaluations will be provided anonymously from two students from the class and two animal science department members. These evaluations will be composited by the instructors and discussed with the student privately following their seminar.
- The chairperson of each seminar class will be evaluated orally by a student from the class and a general evaluator (member of animal science department staff) following the completion of the presentation and question period of each class.

University Support Office & Policies

Instructors shall provide to every student the information on university support offices and policies in [Schedule "A"](#) within the first week of classes, either through a paper copy and/or via the university's student information system (i.e., Aurora, UM Learn, or such other university information system as may be approved by the university from time to time).

Schedule "A"

Section (a) sample re: A list of academic supports available to Students, such as the Academic Learning Centre, Libraries, and other supports as may be appropriate:

Writing and Learning Support

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC

also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor's feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at:

<http://umanitoba.ca/student/academiclearning/>

You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 205 Tier Building.

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: <http://bit.ly/WcEbA1> or name: <http://bit.ly/1tJ0bB4>. In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: <http://bit.ly/1sXe6RA>. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries' homepage: www.umanitoba.ca/libraries.

Section (b) sample: re: A statement regarding mental health that includes referral information:

For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

Student Counselling Centre

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. *Student Counselling Centre:* <http://umanitoba.ca/student/counselling/index.html>

474 University Centre or S207 Medical Services
(204) 474-8592

Student Support Case Management

Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team. *Student Support Intake Assistant* <http://umanitoba.ca/student/case-manager/index.html>

520 University Centre
(204) 474-7423

University Health Service

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation.

University Health Service <http://umanitoba.ca/student/health/>

104 University Centre, Fort Garry Campus
(204) 474-8411 (Business hours or after hours/urgent calls)

Health and Wellness

Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault.

Health and Wellness Educator <http://umanitoba.ca/student/health-wellness/welcome.html>
Katie.Kutryk@umanitoba.ca

469 University Centre
(204) 295-9032

Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site:

<http://umanitoba.ca/student/livewell/index.html>

Section (c) sample: re: A notice with respect to copyright:

All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office provides copyright resources and support for all members of the University of Manitoba community. Visit <http://umanitoba.ca/copyright> for more information.

Section (d) sample: re: A statement directing the student to University and Unit policies, procedures, and supplemental information available on-line:

Your rights and responsibilities

As a student of the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The [Academic Calendar](http://umanitoba.ca/student/records/academiccalendar.html) <http://umanitoba.ca/student/records/academiccalendar.html> is one important source of information. View the sections *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- If you have questions about your grades, talk to your instructor. There is a process for term work and final **grade appeals**. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form <http://umanitoba.ca/registrar/>
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about

demonstrating academic integrity in your academic work. Visit the Academic Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/> View the **Student Academic Misconduct** procedure for more information.

- The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected conduct yourself in an appropriate respectful manner. Policies governing behavior include the:

Respectful Work and Learning Environment

http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline

http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html and,

Violent or Threatening Behaviour

http://umanitoba.ca/admin/governance/governing_documents/community/669.html

- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at:
http://umanitoba.ca/admin/governance/governing_documents/community/230.html
More information and resources can be found by reviewing the Sexual Assault site <http://umanitoba.ca/student/sexual-assault/>
- For information about rights and responsibilities regarding **Intellectual Property** view the policy
http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy_-_2013_10_01.pdf

For information on regulations that are specific to your academic program, read the section

in the Academic Calendar and on the respective faculty/college/school web site

<http://umanitoba.ca/faculties/>

Contact an **Academic Advisor** within our faculty/college or school for questions about

your academic program and regulations <http://umanitoba.ca/academic-advisors/>

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

<http://umanitoba.ca/student/advocacy/>

520 University Centre

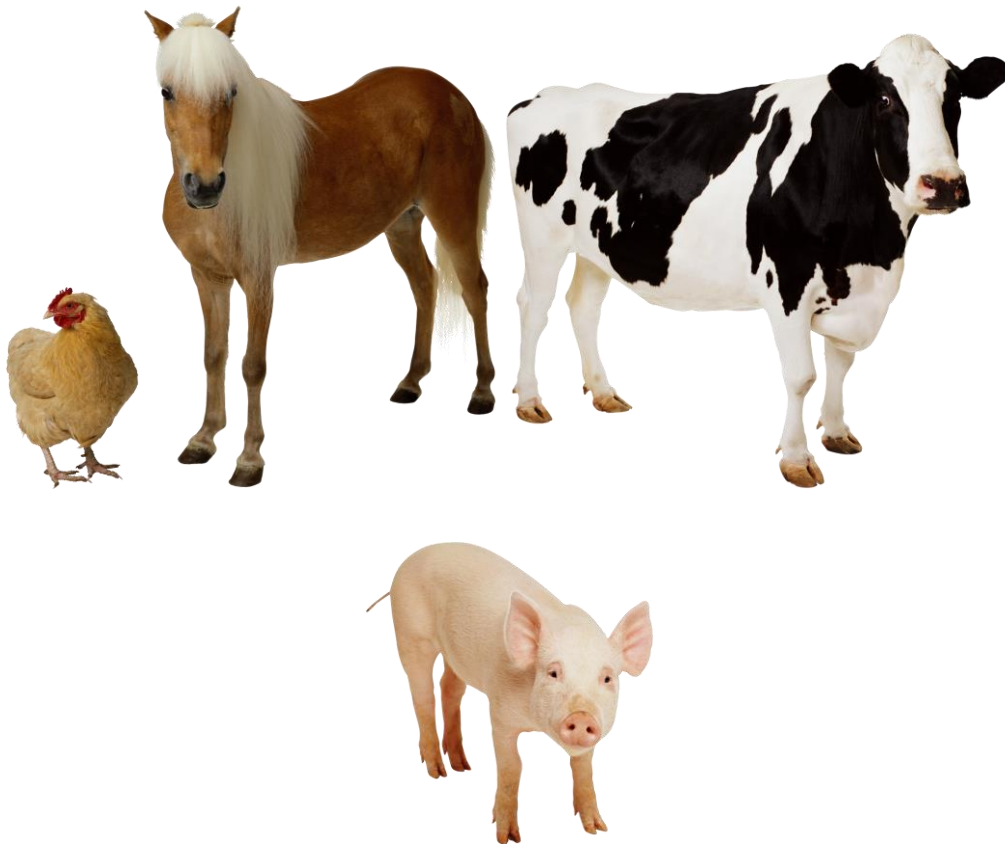
204 474 7423

student_advocacy@umanitoba.ca



**University
of Manitoba**

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ANSC 3510 FEEDS AND FEEDING

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COURSE DETAILS

Course Title & Number:	ANSC 3510 Feeds and Feeding
Number of Credit Hours:	3.0
Class Times & Days of Week:	Monday, Wednesday, and Friday; 11:30 am – 12:20 pm Tuesday; 2:30 pm– 5:15 pm
Location for classes/labs/tutorials:	ANIMAL SCIENCE BUILDING Rm: 107
Pre-Requisites:	ANSC 2520 Anatomy and Physiology 2: Nutrient Utilization

Instructor Contact Information

Instructor(s) Name:	Dr. Chengbo Yang
Preferred Form of Address:	Chengbo
Office Location:	227 Animal Science Building
Office Hours or Availability:	Individual assistance is always available by appointment. I look forward to meeting you through WebEx during office hours.
Office Phone No.	(204) 474-8188
Email:	<u>chengbo.yang@umanitoba.ca</u> Use the University of Manitoba email accounts for all communication, quote the number of the course to which your query is directed (e.g. ANSC 3510) to avoid ambiguity. Telephone communication is welcome but do not leave voicemail messages. I will respond to e-mail within 24 h during the week (Mon to Fri). Do not expect detailed or lengthy e-mail responses. If your e-mail question(s) require such a response I may ask you to meet me through WebEx instead.
Contact:	You are welcome to contact us by phone or email during the time outlined above.
TA:	Chongwu Yang, Email: <u>yangc315@myumanitoba.ca</u>

Course Description

The course gives a detailed discussion of feedstuffs used for domestic animals, animal nutrient requirements, ration balancing, feedstuff processing and feed safety. Aspects of animal nutrition that include ration balancing, feedstuff preservation and processing, and feed safety are discussed. Various feedstuffs that are used to meet nutrient requirements of different classes and species of domestic animals are characterized and their properties including anti-nutritive factors are discussed. Methods of improving nutritive value of feeds, including the use of various feed additives are also discussed.

Students are expected to be familiar with Microsoft Excel and will have an opportunity to learn to use diet formulation software to make balanced livestock diets. Access to a laptop is recommended for some of the laboratory exercises.

General Course Information

Read through the syllabus at the beginning of the semester to ensure that you understand how overall performance in this course will be assessed. Two term tests, laboratory exercises/assignments, a group term paper and presentation, and a final examination are the components of evaluation in this course. It is important to know at the onset, the percentage contribution, and the due date of each component in order to avoid rushing at the last minute to complete the assignments.

Course Goals

1. This course provides students with a solid understanding of:
 - Major feed ingredients used in livestock and poultry diets and why they are used
 - The process of formulating diets for livestock
 - Feed balancing programs used in food animal production
2. The course provides students with an opportunity to enhance their critical thinking skills, and oral and written communication skills through assignments
3. Students also learn basic concepts in feed preparation, handling, and preservation.
4. Students will develop problem-solving skills involved in the feeding of domesticated animals through case studies

Learning Outcomes

By the end of this course, students will be able to:

- Define major chemical components and their functions in animal feeds and feed ingredients;
- Classify animal feeds and feed ingredients;
- Illustrate how feed processing affects nutrient utilization by animals;
- Connect the laws and regulations regarding animal feeding and feed labeling to feed safety;
- Formulate a balanced ration to meet the nutrient requirements of an animal or a group of animals.

Using Copyrighted Material

Please respect copyright. We will use copyrighted content in this course. I have ensured that the content I use is appropriately acknowledged and is copied in accordance with copyright laws and University guidelines. Copyrighted works, including those created by me, are made available for private study and research and must not be distributed in any format without permission. Do not upload copyrighted works to a learning management system (such as UM Learn), or any website, unless an exception to the *Copyright Act* applies or written permission has been confirmed. For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright/> or contact um_copyright@umanitoba.ca.

Recording Class Lectures

The instructor and the University of Manitoba hold copyright over the course materials, presentations and lectures, which 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 of the instructor. Course materials (both paper and digital) are for the participant's private study and research.

Textbook, Readings, Materials

Required textbook – none required.

Recommended/ reference texts:

Cheeke, P.R. 2005. Applied Animal Nutrition (3rd edition), Pearson/ Prentice Hall Publishers

NRC, 1994. Nutrient Requirements of Poultry (9th edition), National Academies Press

NRC, 2001. Nutrient Requirements of Dairy Cattle (7th edition), National Academies Press

NRC, 2016. Nutrient Requirements of Beef Cattle (8th edition), National Academies Press

NRC, 2012. Nutrient Requirements of Swine (11th edition), National Academies Press

Leeson, S., and J. D. Summers. 2009. Commercial Poultry Nutrition (3rd edition), Nottingham University Press

Wu, G. 2018. Principles of Animal Nutrition, CRC Press.

All books can be found at the library of the University of Manitoba. I have several copies of these books in my office, and you can borrow them from me.

Course Technology

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical, and legal manner. The student can use all technology in classroom setting only for educational purposes approved by instructor and/or the University of Manitoba Disability Services. Students should not participate in personal direct electronic messaging / posting activities (e-mail, texting, video or voice chat, wikis, blogs, social networking (e.g. Facebook) online and offline “gaming” during scheduled class time. If the student is on call (emergency), the student should switch his/her cell phone on vibrate mode and leave the classroom before using it.

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 - 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 us (you as a student and myself) 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 communications between yourself and the university.

Expectations: I Expect You To

- Attend class and be on time as much as you can and to ask for help.
- Prerequisites: Know basic anatomy and physiology of the digestive system of various farm animals and the basic concept of matching nutrient supply to nutrient requirements.
- Adhere to university student academic and conduct guidelines.
- Complement the notes that I provide with your own notes that you take during lectures. The notes that I provide may be incomplete and you will be expected to attend lectures in order to complete your notes. You will also be evaluated based on your comprehension of material supplied in Power-point notes, handouts and any relevant discussions during class.
- Complete all assignments on time.
- Produce university-level quality writing: legible and proofread. I encourage you to type and submit hard copies of assignments. If there are a significant number of errors or if it is difficult to read, the assignment will be returned to you prior to grading for changes.
- I will treat you with respect and would appreciate the same courtesy in return. See Respectful Work and Learning Environment Policy.

Academic Integrity:

Each student in this course is expected to abide by the University of Manitoba [Academic Integrity principles](#). Always remember to reference the work of others that you have used. Also be advised that you are required to complete your assignments independently unless otherwise specified. If you are encouraged to work in a team, ensure that your project complies with the academic integrity regulations. You must do your own work during exams. Inappropriate collaborative behavior and violation of other Academic Integrity principles, will lead to the serious [disciplinary action](#). Visit the [Academic Calendar](#), [Student Advocacy](#), and [Academic Integrity](#) web pages for more information and support.

You are reminded that:

- 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. Students should also be made aware of any specific instructions concerning study groups and individual assignments;
- IV. The limits of collaboration on assignments should be defined as explicitly as possible; and
- V. All works should be completed independently unless otherwise specified.

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

Expectations: You Can Expect Me To

A large part of the course content is delivered in the form of PowerPoint presentations that are made available through UMLearn ahead of classes.

Be respectful of your questions and make every reasonable effort to answer them.

Provide feedback on tests and assignments in a fair, equitable, and prompt fashion.

I will be in class for 10 minutes prior to and after the class time to discuss any questions or comments you may have.

Unit 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). The schedule should include dates and times of classes, including missed classes due to holidays or other commitments of the teacher. It also includes dates of assignments/quizzes/exams and alternate forms of assessments, date for voluntary withdrawal, and dates when students can expect to receive their assignment or test grades.

1. Introduction to the course
 - i) General overview of the course, grading, assignments and expectations
2. Nutrients and Digestion
 - i) Nutrient Classes
 - ii) Digestive Systems of Farm Animals
3. Evaluation of Feeds I
 - i) Techniques Used in Evaluating Feeds
 - ii) Measuring Nutrient Digestibility
4. Energy Sources in Livestock Nutrition
 - i) Energy Concentrates
 - ii) Forages and Roughages
5. Evaluation of Feeds II
 - i) Determination of Protein Requirements
 - ii) Determination of Protein Quality in Monogastrics
 - iii) Determination of Protein Quality in Ruminants
 - iv) Protein Sources in Livestock Nutrition
6. Micronutrients

- i) Calcium and Phosphorus – Dietary Sources, Functions and Deficiency Symptoms
- ii) Electrolyte minerals – Dietary Sources, Functions and Deficiency Symptoms
- iii) Trace Minerals – Dietary Sources, Functions and Deficiency/Toxicity Symptoms
- iv) Fat Soluble Vitamins – Dietary Sources, Functions and Deficiency Symptoms
- v) Water Soluble Vitamins – Dietary Sources, Functions and Deficiency Symptoms
- 7. Feed Additives in Animal Nutrition
- 8. Anti-nutritional Factors of Feeds
- 9. Feed Manufacturing
 - i) Feed Manufacturing Process
 - ii) Feed Intake Regulations in Animal Nutrition
- 10. Recent Advances in Animal Nutrition
 - i) New Feeds
 - ii) Topical issues

Class Schedule

Date	Lecture	Unit
Wed-Sep-9		<i>First day of classes for most faculties and schools.</i>
Wed-Sep-9	1	Introduction to the Course
Thu-Sep-10		
Fri-Sep-11	2	Categories of Nutrients
Mon-Sep-14	3	Digestive Tract Physiology 1
Tue-Sep-15		
Wed-Sep-16	4	Digestive Tract Physiology 2
Thu-Sep-17		
Fri-Sep-18	5	Techniques Used in Feed Evaluation
Mon-Sep-21	6	Determination of Digestibility of Feeds
Tue-Sep-22		<i>Last date for refund for dropped Fall Term courses</i>
Wed-Sep-23	7	Determination of Energy Value of Feeds
Thu-Sep-24		
Fri-Sep-25	8	Determination of Energy Value of Feeds
Mon-Sep-28	9	Energy Sources in Livestock Nutrition (Corn)
Tue-Sep-29		
Wed-Sep-30	10	Energy Sources (Other Cereals and Concentrates)
Thu-Oct-1		
Fri- Oct-2	11	Energy Sources (Lipid Sources)
Mon- Oct-5	12	Energy Sources (Agro-industrial By-products)
Tue-Oct-6		
Wed-Oct-7	13	Energy Sources - Forages and Roughages (Hay, Pasture and Straw)
Thu-Oct-8		

Date	Lecture	Unit
Fri-Oct-9		TEST 1 (Covers lectures 1-12 and all materials covered in tutorials and labs from September 9 to October 5, 2020)
Mon-Oct-12	Thanksgiving Day - university closed	
Tue-Oct-13		
Wed-Oct-14	14	Energy Sources - Forages and Roughages (Silage)
Thu-Oct-15		
Fri-Oct-16	15	Energy Sources – Forage Sampling & Practical Value of Forages in Ruminant Nutrition
Mon-Oct-19	16	Determination of Protein Value of Feeds II - Ruminants
Tue-Oct-20		
Wed-Oct-21	17	Determination of Protein Value of Feeds II - Monogastrics
Thu-Oct-22		
Fri-Oct-23	18	Determination of Protein Value of Feeds II - Monogastrics
Mon-Oct-26	19	Sources of Dietary Protein in Livestock Nutrition
Tue-Oct-27		
Wed-Oct-28	20	Sources of Dietary Protein in Livestock Nutrition (wrap up)
Thu-Oct-29		
Fri-Oct-30	21	Micronutrients (Calcium and Phosphorus)
Mon-Nov-2	22	Micronutrients (Electrolyte Minerals)
Tue- Nov-3		
Wed- Nov-4	23	Micronutrients (Trace Minerals)
Thu- Nov-5		
Fri- Nov-6		TEST 2 (Covers lectures 13 – 23 and all materials covered in tutorials and labs from October 7 to November 4, 2020)
Mon-Nov-9	Fall Term break: No classes or examinations Remembrance Day (Nov-11) - University Closed	
Tue-Nov-10		
Wed-Nov-11		
Thu-Nov-12		
Fri-Nov-13		
Mon-Nov-16	24	Micronutrients (Fat Soluble Vitamins)
Tue-Nov-17		
Wed-Nov-18	25	Micronutrients (Water Soluble Vitamins)
Thu-Nov-19		
Fri-Nov-20	26	Anti-nutritional Factors-I
Mon-Nov-23	27	Anti-nutritional Factors-II Last date for Voluntary Withdrawal (VW)
Tue-Nov-24		
Wed-Nov-25	28	Feed Intake Regulations in Animal Nutrition
Thu-Nov-26		
Fri-Nov-27	29	Feed Additives-I
Mon-Nov-30	30	Feed Additives-II
Tue-Dec-1		
Wed- Dec-2	31	Feed Manufacturing-I
Date	Lecture	Unit

Thu- Dec-3		
Fri- Dec-4	32	Feed Manufacturing-II
Mon-Dec-7	33	Novel / New Feeds-I
Tue-Dec-8		
Wed-Dec-9	34	Novel / New Feeds-II
Thu-Dec-10		
Fri-Dec-11		Review (<i>Classes end in most faculties and schools</i>)
Dec 12 to 23		<i>Final examination period. Students must remain available until all examination obligations have been fulfilled.</i>

Laboratory Expectations

I expect students to fully participate in laboratory and tutorial activities. Students are not required to have completed any safety training such WHMIS because student participation is kept to a minimum/ observation only. Students will be expected to complete laboratory exercise during the lab period and submit them before leaving. There will not be any make-up exercises for missed labs. Only diet formulation exercises can be completed and submitted electronically. The due date for each of the diet formulation assignments will be stated on each assignment.

Lab Schedule

Lab	Date (2020)	Topic
1	Sept 15 Feed identification	Tutorial, Tour TK Cheng Center Feed mixing (Premix and complete feed) Feed identification exercise (<i>20 points</i>)
2	Sept 22 Video Demonstration	Principles of feed manufacturing included: receiving grains/ or feedstuffs, cleaning grain, particle size reduction, and mixing, post-mixing treatments such as pelleting.
3	Sept 29 Video Demonstration	Determining digestibility coefficients of feeds Students will have a laboratory demonstration of analytical methods. (<i>20 points</i>)
4	Oct 6	Tutorial – Case studies on materials covered in the course up to this point.
6	Oct 13 Swine Diets	Diet formulation – Swine (Guest Speaker) (<i>20 points</i>)
7	Oct 20	Tutorial – Case studies - Swine
8	Oct 27 Poultry Diets	Diet formulation – Poultry (Guest Speaker) (<i>20 points</i>)

9	Nov 3	Diet formulation for dairy cattle – CPM Dairy (Guest Speaker) (20 points)
10	Nov 17	Tutorial – Case studies – Dairy and Poultry
11	Nov 24 Extension article	Presentations
12	Dec 1 Extension article	Presentations

Course Evaluation Methods

Each term test will comprise of multiple-choice questions (max 10 marks), short answer questions (max 15 marks) and long answers with calculations or applied animal nutrition focus (max 30 marks). Total marks for each term test is 50 marks.

The final examination will have the components described above but multiple-choice and some short answer questions will come from the last portion of the syllabus not tested in term test 1 and term test 2. Some of the short answer questions and most of the long answer type questions would come from the portions of the syllabus previously tested in the term test.

The format of the laboratory assignments will be dictated by the topics covered.

Due Date:	Assessment Tool	Value of Final Grade, %
As per Class schedule	Term test 1	20
As per Class schedule	Term test 2	20
As per Lab schedule	Lab assignments	10
23/11/2020 (Monday)	Extension article and presentation as per schedule	15
TBA	Final examination	35

Grading

Letter Grade	Percentage out of 100	Grade Point Range	Final Grade Point
A+	92-100	4.25-4.5	4.5
A	85-91.9	3.75-4.24	4.0
B+	78-84.9	3.25-3.74	3.5
B	70-77.9	2.75-3.24	3.0
C+	62-69.9	2.25-2.74	2.5
C	55-61.9	2.0-2.24	2.0
D	50-54.9	Less than 2.0	1.0
F	Less than 50		0

Referencing Style

Assignments should use the citation format adopted by the Canadian Journal of Animal Science: <http://www.nrcresearchpress.com/page/cjas/authors>

Make sure you cite only literature that is highly relevant and avoid multiple citations on the same point.

Check each reference with the original article and refer to it in the text by the author and date;

Examples of correct citations:

Following the overnight incubation, membranes were washed (6×10min) in 1×TBS with 0.1% Tween-20 and incubated at room temperature for 1 h with a secondary donkey anti-rabbit HRP-conjugated IgG (1:10 000 dilution in 6% skim milk powder, Promega) (Yang et al. 2016).

Gozho et al. (2005) used a threshold of a rumen pH depression between pH 5.2 and 5.6 for at least 3 h/day, and feed intake was only reduced and inflammation only occurred at equal or greater rumen pH depressions.

Studies by Gozho et al. (2007) and Khafipoor et al. (2006) showed that grain-induced SARA also increased SAA in lactating dairy cows (Table 1).

List multiple references in the text in chronological order. Use “et al.” when there are more than two authors but give all authors in the reference list at the end of your assignment.

Example of how references should be compiled at the end of your assignment (note bolding, spacing of initials, capitalization, and punctuation).

Extension Article Assignment Descriptions

The extension article assignment is aimed at getting students to review a scientific publication that covers some aspect covered in the course in order to:

- a) Determine what the paper seeks to address and why it is important in feeds and feeding
- b) How the investigators achieve their objective – i.e. what methods or techniques are used
- c) What are their findings – here students are expected to communicate the findings in plain language that a farmer can understand. However, avoid over-simplifying the findings!
- d) Students will work in groups of at least two and must submit the extension type article and give a PowerPoint presentation of their article.

Assignment Grading Times

Students can expect to receive their graded assignments within one week of submission. Once graded, marks will be uploaded to UMLearn and students will have an opportunity to know the marks even before they pick up their assignments.

Criteria for grading assignments

There are five assignments in this course. Rubric for each assignment is on UM Learn course directory.

Assignment Extension and Late Submission Policy

Late submissions are discouraged and may not be accepted without valid reasons (such as a doctor's note etc.). Even where such submissions are accepted, they will attract a 10% reduction in the final mark achieved. Electronic submissions will strictly be set such that the system would not accept submissions past the stipulated time (such as midnight).

University Support Office & Policies

Instructors shall provide to every student the information on university support offices and policies in [Schedule "A"](#) within the first week of classes, either through a paper copy and/or via the university's student information system (i.e., Aurora, UM Learn, or such other university information system as may be approved by the university from time to time).

Schedule "A"

Section (a) sample re: A list of academic supports available to Students, such as the Academic Learning Centre, Libraries, and other supports as may be appropriate:

Writing and Learning Support

The Academic Learning Centre (ALC) offers services that may be helpful to you throughout your academic program. Through the ALC, you can meet with a learning specialist to discuss concerns such as time management, learning strategies, and test-taking strategies. The ALC also offers peer supported study groups called Supplemental Instruction (SI) for certain courses that students have typically found difficult. In these study groups, students have opportunities to ask questions, compare notes, discuss content, solve practice problems, and develop new study strategies in a group-learning format.

You can also meet one-to-one with a writing tutor who can give you feedback at any stage of the writing process, whether you are just beginning to work on a written assignment or already have a draft. If you are interested in meeting with a writing tutor, reserve your appointment two to three days in advance of the time you would like to meet. Also, plan to meet with a writing tutor a few days before your paper is due so that you have time to work with the tutor's feedback.

These Academic Learning Centre services are free for U of M students. For more information, please visit the Academic Learning Centre website at:

<http://umanitoba.ca/student/academiclearning/>

You can also contact the Academic Learning Centre by calling 204-480-1481 or by visiting 205 Tier Building.

University of Manitoba Libraries (UML)

As the primary contact for all research needs, your liaison librarian can play a vital role when completing academic papers and assignments. Liaisons can answer questions about managing citations, or locating appropriate resources, and will address any other concerns you may have, regarding the research process. Liaisons can be contacted by email or phone, and are also available to meet with you in-person. A complete list of liaison librarians can be found by subject: <http://bit.ly/WcEbA1> or name: <http://bit.ly/1tJ0bB4>. In addition, general library assistance is provided in person at 19 University Libraries, located on both the Fort Garry and Bannatyne campuses, as well as in many Winnipeg hospitals. For a listing of all libraries, please consult the following: <http://bit.ly/1sXe6RA>. When working remotely, students can also receive help online, via the Ask-a-Librarian chat found on the Libraries' homepage: www.umanitoba.ca/libraries.

Section (b) sample: re: A statement regarding mental health that includes referral information:

For 24/7 mental health support, contact the Mobile Crisis Service at 204-940-1781.

Student Counselling Centre

Contact SCC if you are concerned about any aspect of your mental health, including anxiety, stress, or depression, or for help with relationships or other life concerns. SCC offers crisis services as well as individual, couple, and group counselling. *Student Counselling Centre:* <http://umanitoba.ca/student/counselling/index.html>
474 University Centre or S207 Medical Services
(204) 474-8592

Student Support Case Management

Contact the Student Support Case Management team if you are concerned about yourself or another student and don't know where to turn. SSCM helps connect students with on and off campus resources, provides safety planning, and offers other supports, including consultation, educational workshops, and referral to the STATIS threat assessment team. *Student Support Intake Assistant* <http://umanitoba.ca/student/case-manager/index.html>
520 University Centre
(204) 474-7423

University Health Service

Contact UHS for any medical concerns, including mental health problems. UHS offers a full range of medical services to students, including psychiatric consultation. *University Health Service* <http://umanitoba.ca/student/health/>
104 University Centre, Fort Garry Campus
(204) 474-8411 (Business hours or after hours/urgent calls)

Health and Wellness

Contact our Health and Wellness Educator if you are interested in information on a broad range of health topics, including physical and mental health concerns, alcohol and substance use harms, and sexual assault.

Health and Wellness Educator <http://umanitoba.ca/student/health-wellness/welcome.html>
Katie.Kutryk@umanitoba.ca

469 University Centre
(204) 295-9032

Live Well @ UofM

For comprehensive information about the full range of health and wellness resources available on campus, visit the Live Well @ UofM site:

<http://umanitoba.ca/student/livewell/index.html>

Section (c) sample: re: A notice with respect to copyright:

All students are required to respect copyright as per Canada's *Copyright Act*. Staff and students play a key role in the University's copyright compliance as we balance user rights for educational purposes with the rights of content creators from around the world. The Copyright Office provides copyright resources and support for all members of the University of Manitoba community. Visit <http://umanitoba.ca/copyright> for more information.

Section (d) sample: re: A statement directing the student to University and Unit policies, procedures, and supplemental information available on-line:

Your rights and responsibilities

As a student of the University of Manitoba you have rights and responsibilities. It is important for you to know what you can expect from the University as a student and to understand what the University expects from you. Become familiar with the policies and procedures of the University and the regulations that are specific to your faculty, college or school.

The [Academic Calendar](http://umanitoba.ca/student/records/academiccalendar.html) <http://umanitoba.ca/student/records/academiccalendar.html> is one important source of information. View the sections *University Policies and Procedures* and *General Academic Regulations*.

While all of the information contained in these two sections is important, the following information is highlighted.

- If you have questions about your grades, talk to your instructor. There is a process for term work and final **grade appeals**. Note that you have the right to access your final examination scripts. See the Registrar's Office website for more information including appeal deadline dates and the appeal form <http://umanitoba.ca/registrar/>
- You are expected to view the General Academic Regulation section within the Academic Calendar and specifically read the **Academic Integrity** regulation. Consult the course syllabus or ask your instructor for additional information about demonstrating academic integrity in your academic work. Visit the Academic

Integrity Site for tools and support <http://umanitoba.ca/academicintegrity/> View the **Student Academic Misconduct** procedure for more information.

- The University is committed to a respectful work and learning environment. You have the right to be treated with respect and you are expected conduct yourself in an appropriate respectful manner. Policies governing behavior include the:

Respectful Work and Learning Environment

http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Discipline

http://umanitoba.ca/admin/governance/governing_documents/students/student_discipline.html and,

Violent or Threatening Behaviour

http://umanitoba.ca/admin/governance/governing_documents/community/669.html

- If you experience **Sexual Assault** or know a member of the University community who has, it is important to know there is a policy that provides information about the supports available to those who disclose and outlines a process for reporting. The **Sexual Assault** policy may be found at:
http://umanitoba.ca/admin/governance/governing_documents/community/230.html
More information and resources can be found by reviewing the Sexual Assault site <http://umanitoba.ca/student/sexual-assault/>
- For information about rights and responsibilities regarding **Intellectual Property** view the policy
http://umanitoba.ca/admin/governance/media/Intellectual_Property_Policy_-_2013_10_01.pdf

For information on regulations that are specific to your academic program, read the section in the Academic Calendar and on the respective faculty/college/school web site <http://umanitoba.ca/faculties/>

Contact an **Academic Advisor** within our faculty/college or school for questions about your academic program and regulations <http://umanitoba.ca/academic-advisors/>

Student Advocacy

Contact Student Advocacy if you want to know more about your rights and responsibilities as a student, have questions about policies and procedures, and/or want support in dealing with academic or discipline concerns.

<http://umanitoba.ca/student/advocacy/>

520 University Centre

204 474 7423

student_advocacy@umanitoba.ca

**Department of Animal Science Seminar Series
Fall 2020, Tuesdays, 10:00 am – 11:15 am**

Seminar Schedule

Instructors

MSc Students

Dr. Chengbo Yang

PhD Students

Dr. Karmin O

Meeting Room

Online (WebEx)

Meeting Dates/Time

Fall Semester

Tuesdays from
10:00 – 11:15 am

Winter Semester

Tuesdays from
11:30 – 12:45

Exception

Faculty Seminars are held once a month on Wednesdays from 3:00 – 4:30 pm in the Carolyn Sifton Lecture Theatre, 130 Agriculture Bldg. During these weeks there won't be an Animal Science Seminar unless stated otherwise.

Animal Science Seminar Series includes sessions that are devoted to research and extension or update/review of topics in animal-agriculture. The program also creates a mutually supportive and positive learning environment so graduate students can share their results, obtain feedback on their work, and improve their presentation and communication skills.

Refreshments will be available.
ALL ARE WELCOME!

September 15, 2020

Special Seminar

Introduction to Animal Science Seminar and an overview of an academic year in graduate studies

Speaker:

Course instructors

September 22, 2020

Poster Presentation

Strategic supplementation to improve beef cattle performance and expand utilization of pasture-based production systems

Chair: Bingqi Dong

Speaker: Daphne McKnight, MSc student

Evaluator: Shengnan Li

General Evaluator: Dr. Argenis Rodas-Gonzalez

September 29, 2020

Scientific presentation

The effect of increasing levels of omega-3 fatty acids from either flaxseed oil or preformed docosahexaenoic (DHA) on health indices of laying hens

Chair: Emmanuel Adeshakin

Speaker: Shengnan Li, MSc student

Evaluator: Yanhong Chen

Extension presentation

Non antibiotics strategies for preventing necrotic enteritis in broiler chickens

Speaker: Yuanyuan Zhou, MSc student

Evaluator: Sydney Fortier

General Evaluator: Dr. Kees (JC) Plaizier

October 6, 2020

Poster Presentation

TBA

Chair: Shengnan Li, MSc student

Speaker: Sydney Fortier, MSc student

Evaluator: Bonjin Koo

General Evaluator: Dr. Chengbo Yang

October 13, 2020

Poster Presentation

PilR/PilS two-component and Agr-like quorum sensing systems regulate pilin production and binding of Clostridium perfringens to collagen

Chair: Sydney Fortier, MSc student

Speaker: Yuanyuan Zhou, MSc student

Evaluator: Sharon Mowete

General Evaluator: Dr. Karmin O

Seminar Format

Chair – 2 to 3 min

Call to order; Housekeeping items; Introduction of speaker

Presentation

Extension talk – 25 to 30 min followed by 10 to 15 min of questions and discussion

Poster presentation – 12 to 15 min followed by 5 to 8 min of questions and discussion

MSc Scientific presentation – 12 to 15 min followed by 5 to 8 min of questions and discussion

PhD Scientific presentation – 40 to 45 min followed by 10 to 15 min of questions and discussion

Special seminars – 40 to 45 min followed by 10 to 15 min of questions and discussion

Chair

Introduction of evaluator

Evaluator – 2 to 3 min

Evaluation of speaker

Chair – if more than one presentation given in a session, Chair will continue with the introduction of the second speaker and then the second evaluator

Chair

Introduction of General evaluator

General Evaluator – 5 min

Evaluation of Chair and Evaluator(s); if necessary provides additional comments to the speaker(s)

Chair/Course Instructors

Announcements and closing remarks

October 20, 2020

Poster Presentation

The relationship between milk amyloid A (MAA) and sub-acute ruminal acidosis (SARA)-related inflammation in dairy cows

Extension Presentation

Alternative sources of protein to soy

Chair: Daphne McKnight, MSc student

Speaker: Sharon Mowete, MSc student

Evaluator: Yuanyuan Zhou

Speaker: Emmanuel Adeshakin, MSc student

Evaluator: Xiaoya Zhao

General Evaluator: Dr. Chengbo Yang

October 27, 2020

Video

Elements of an effective oral scientific presentation

Chair: Dr. Chengbo Yang

Speaker: Dr. N. Andy Cole

November 3, 2020

Scientific Presentation

TBA

Chair: Chongwu Yang, Ph.D. student

Speaker: Sydney Fortier, MSc student

Evaluator: Franklin Addo

Scientific Presentation

Milk biomarkers for diagnosing sub-acute ruminal acidosis (SARA) in dairy cows

Speaker: Sharon Mowete, MSc student

Evaluator: Emmanuel Adeshakin

General Evaluator: Dr. Marcos Cordeiro

November 17, 2019

Poster Presentation

Potential prebiotic effect of canola non-starch polysaccharide hydrolysis products in weaned piglets

Chair: Yuanyuan Zhou, MSc student

Speaker: Xiaoxiao Zhang, MSc student

Evaluator: Daphne McKnight

General Evaluator: Dr. Emma McGeough

November 24, 2020

Scientific presentation

Functional characterization and expression of umami receptor T1R1/T1R3 in broiler chickens

Chair: Sharon Mowete

Speaker: Bingqi Dong, MSc student

Evaluator: Xiaoxiao Zhang

Extension presentation

African Swine Fever

Speaker: Rachita Maniyar, MSc student

Evaluator: Junfei Guo



General Evaluator: Dr. Karmin O

December 8, 20120

Scientific presentation

Evaluating the effectiveness of
probiotics against enterotoxigenic
escherichia coli F4 infection with an *in*
vitro method

Chair: Junfei Guo, Ph.D. student

Speaker: Yanhong Chen, MSc student

Evaluator: Rachita Maniyar

General Evaluator: Dr. Karmin O
