UNIVERSITY OF MANITOBA

Faculty of Agricultural and Food Sciences
Department of Food and Human Nutritional Sciences

FOOD 7260 Advanced Meat Science
Winter Term 2021

COURSE DETAILS

Course Title & Number:	FOOD 7260 Advance Meat Science; CRN 60657
Number of Credit Hours:	3
Lecture Times/Days/Location:	Lectures: Tuesday / 2:30 – 5:30 am/Online-study.
Labs Times/Days/Location:	Referring to in-person activities within lecture times. Ellis Building, Pilot Plant.
Pre-Requisites:	Consent of instructor. Offered in alternate years thereafter

Instructor Contact Information

Instructor(s) Name:	Argenis Rodas-González
Preferred Form of Address:	Anything polite
Office Location:	Animal Science/Entomology Building RM 229
Office Hours or Availability:	Preferably send an email with your question or make an appointment for on-line meeting
Office Phone No.	(204)474-9523 (limit access for COVID-19 emergency)
Email:	Argenis.RodasGonzalez@umanitoba.ca
Contact:	If you want to contact me an email with the subject heading FOOD 7260 and your name is best. I expect to respond to email queries within 24-48 hours (circumstances permitting) during the week. I will not normally be checking my email or UM-Learn on weekends and holidays. Also, there is a Student lounge in UM Learn (Communication/Discussion/Student Lounge), where you can post your questions regarding getting access to UM Learn or doubts or material errors as well as provide some answers to your classmates.

Course Description

Meat is a dynamic and exciting commodity which is very important in many economies around the world. Meat products have to provide safety, nutritional, affordable and pleasant food for human consumption. Consequently, the production of meat products under food quality and safety parameters and regulations is beyond the simple memorization of knowledge. It requires critical thinking, integration of knowledge and innovative approaches to problem solving. This course will combine classroom lectures, group discussion, and multiple writing assignments.

General Course Information

Builds on fundamental aspects of muscle biochemistry and function to explain how pre- and post-harvest technologies affect meat quality and safety. Issues of current concern, their resolution as well as recent advances will be discussed. Additionally, the course will provide practical experience in identifying the quality parameters, detect defects, and apply different technologies to obtain different meat products, through class activities and field trips.

This course is delivered remotely. It uses a combined synchronous-asynchronous course design in lectures. Students are expected to be online during the scheduled class times and are expected to log in UM Learn between class times to keep up with discussion and readings.

Be aware that all live classes may be recorded and archived for students to view. If you do not want to be recorded, please turn off audio and video.

Also, it is expected in-person activities (labs) will be provided if the pandemic situation allows and will be deliver within lecture times. The activities will be operationalized in accordance with UM and provincial health and safety requirements.

Course Objectives

- To review the evolution over time and current trends of the meat industry.
- To describe the humanly slaughter processes of the different food animals (e.g. cattle. pork, sheep, chicken) and obtaining and processing their by-products.
- To examine the criteria established in the current Canada legislation to evaluate and grade food animal carcasses.
- To identify the major constituents of meat their characteristics and functions.
- To discuss and contrast the pre- and post-mortem factors that affect carcass composition, constituent properties, quality and processing attributes.
- To recognize and explain the principles and current practices of processing techniques in meat.
- To explain causes and prevention of biological, physical and chemical foodborne illnesses and food spoilage.
- To recognize and explain the manufacturing process in the meat industry.

Learning Outcomes

- Analyze how the meat industry has changed over time.
- Differentiate and asses the slaughter processes and by-product transformation according to the food animal.
- Discriminate food animal carcasses according to quality and yield grades.
- Recognize and differentiate the chemistry and physical characteristics of constituents of meat.
- Describe, differentiate and analysis how pre- and post-harvest factors affect composition, quality and processing attributes of meat.
- Differentiate and compare the principles and current practices of processing techniques to produce new products.
- Describe and differentiate the principles and current practices of processing techniques to control foodborne illnesses and spoilage in the meat industry.
- Acknowledge the contribution the meat industry in the food security of Canada.

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

Dr. Rodas-González and the University of Manitoba hold copyright over the course materials, presentations and lectures which form part of this course. The remote synchronous teaching classes will be recorded for later on to be post it in the UM Learn, in consequence, be aware if you joint to the class, you are authorizing be recorded it. Beyond that, no other audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission from Dr. Rodas-González. Course materials (both paper and digital) are for the participant's private study and research only, and must not be uploaded to the internet or shared in any way either physically or electronically.

Textbook, Readings, Materials

There is no assigned textbook for this course. The following are recommended:

- Elton D. Aberle, John C. Forrest, David E. Gerrard, Edward W. Mills. 2012. **Principles of Meat Science**. Kendall Hunt Publishing Company.
- Rodrigo Tarté. 2009. **Ingredients in Meat Products: Properties, Functionality and Applications.** Springer. UofM library online access.
- A.M. Pearson, T.A. Gillett. 2012. **Processed Meats**. Chapman & Hall.
- Journals: Meat Science, Journal of Food Science, Journal of Animal Science, Canadian Journal of Animal Science, etc.

Course Technology

This course is delivered remotely. It uses a combined synchronous-asynchronous course design in lectures and labs. Students are expected to be online during the scheduled class times and are expected to log in between class times to keep up with discussion and readings.

Your computer or device, and Internet connection must meet the UM minimum requirements found here https://centre.cc.umanitoba.ca/wp-content/uploads/2020/04/Student-Connectivity-Recommendations.pdf, https://centre.cc.umanitoba.ca/wp-content/uploads/2020/04/Student-Connectivity-Recommendations.pdf . These are required for all Winter 2021 classes. Students must have Webex and i-Clicker installed. The instructor could use e-proctoring technology such as Respondus Lockdown Browser and Monitor or Webex as proctoring tools.

UM Learn: Class notes and lab material will be posted on UMLearn. You should be aware that the notes posted are not complete and will require you to attend class to fill in key details. The instructor will spend a few minutes on the first day of classes demonstrating where these can be found in UM Learn.

Webex: lectures and labs will be delivered through this platform.

iClickers: Students can use an **iClicker, or the iClicker Reef app** for answering questions during lecture and lab throughout the duration of the course.

For more information on how to set up and use iClicker Cloud in your course, visit:
https://universityofmanitoba.desire2learn.com/d2l/le/content/6606/viewContent/1432626/View
If you have questions or need help, contact IST Service Desk (servicedesk@umanitoba.ca or 204-474-8600).

Respondus Lockdown Browser and Monitor or Webex as proctoring tools

Cell phones and laptop computers: 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 the classroom setting only for educational purposes approved

by the 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 a student is on call (emergency), the student should switch his/her cell phone on vibrate mode and leave the classroom before using it. (adapted from ©S Kondrashov. Used with permission)

Material for this course is uploaded to UM Learn. Please see this link for support: http://intranet.umanitoba.ca/academic_support/catl/resources/359.html

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

Please note that all communication between myself 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.

Students Lounge in UM Learn: Post your questions or answers regarding getting access to UM Learn or doubts or material errors

Student Etiquette for Remote Learning

- Find a quiet area for live class sessions
- Choose a location with a reliable internet connection
- Have a power outlet near the workspace if the device needs to be charged
- Use a desk or a table for your computer/laptop/IPad that can hold any additional resources needed for class
- Beware of your surroundings (i.e., pictures/posters on wall behind you; things that you are doing – any things/people you do not want others to see during the live class)
- Attend classes on time or even a few minutes early to ensure there are no difficulties
- Be dressed appropriately during live/class meetings. Dress as you would normally do attending in-person classes
- Remove any distractions during live class sessions – turn off cellphones, no text messaging, no television, web browsing, email, etc
- Be respectful and courteous to fellow students, instructors and guest speakers at all times during live sessions. Remember you are still attending class!

- Come prepared for live sessions. Read the textbook and assigned readings prior to class. Not all the textbook/readings will be covered in the lectures and not all material covered in the lecture is found in the course textbook/readings.
- Be aware that all live classes may be recorded and archived for students to view. If you do not want to be recorded, please turn off audio and video.
- The UM-Learn Discussion Forum may be used for group participation. Communication must be respectful and thoughtful.

Expectations: I Expect You To

Participate,
Demonstrate willingness to learn,
Be courteous,
Show academic integrity and honesty.
Work effectively as a team to design and execute class activities.
Not to leave the class before it ends unless there is an emergence to which you must attend. Leaving a class before the end is disrespectful to your instructor and disruptive towards your fellow students.
Not use your cell phone- Please be respectful in class and turn your cell phone off or onto vibration mode for the duration of the class.
Use your laptop computers to aid your leaning- Laptops are a perfect way to take notes in class and share information with peers; be respectful to the instructor and other students while using laptops by staying on task in class. Answer questions that I will ask of the class. I do not expect you always (or ever!) to get the correct answer, but I do expect you to try and to participate.
See Respectful Work and Learning Environment Policy.

Expectations: You Can Expect Me To

To treat you fairly and with respect.
To be available for consultation regularly.
To treat all of your questions and comments with respect and to take your concerns seriously.
To remain in the classroom for 5 minutes after class to answer any immediate questions.
To provide clarification or explanation at the time in class for any doubt. Otherwise, send me an email.
To offer advice about class materials, assignments or exams.
To grade and return the assignments and exams within 2 weeks of the due date; late assignments will be graded as my time permits.
To ask questions and gives everyone a chance to participate in class.

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 (http://umanitoba.ca/student/resource/student_advocacy/media/Advoc-Cheat-Booklet-rev04-web.pdf).

Respectful Work and Learning Environment

In this course we support a climate of respect in the workplace and in the learning environment where individuals or groups of individuals are free from harassment and discrimination. For more information in this policy visit the following link:
http://umanitoba.ca/admin/governance/governing_documents/community/230.html

Student Support and Students Accessibility Services (SAS)

Responsibilities of Academic Staff with Regard to Students (ROASS)
Final Examination and Final Grades Policy
Respectful Work and Learning Environment Policy
Sexual Assault Policy
Student Advocacy Office Policy
Student Academic and Non-Academic Misconduct Policies
Student Discipline Appeal Procedure
The University of Manitoba Accessibility Policy
University Health Services Policy

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

Course Evaluation Methods

Assignments	Grade
In-person group activities: field trip, lab demonstrations, discussion and report	**40%**
Midterm exams (two at 20% each)	**40%**
Final examination	**20%**

Assignment Descriptions

In-person group activities: 40%.
Teamwork, written assignments (short essay 750-1000 words in length) or class discussions/short presentations (5-8 min) related to lab demonstrations, documentaries, or watch industrial production processes. The report has to be submitted in UM-Learn system.

Midterm exams: 40%
Short answer, short essay, multiple choices, fill the blank, true/false, matching and/or open-book questions.

Final examination: 20%
The final exam will be comprehensive and will cover all lecture materials and handouts.

Grading

Standardized grades used are those followed by the Food Science Department:

Final grade	Letter Grade	Grade Point Value	
90 - 100%	A+	4.5	Exceptional
80 - 89%	A	4.0	Excellent
75 - 79%	B+	3.5	Very Good
67 - 74%	B	3.0	Good
61 - 66%	C+	2.5	Satisfactory
56 - 60%	C	2.0	Adequate
50 - 55%	D	1.0	Marginal
Under 50%	F	0.0	Failure
	P	Null	Pass

Note: Grades will not be curved.

Assignment Grading Times

All assignments handed in on time will be graded and returned within 2 weeks of the due date; late assignments will be graded as my time permits.

Assignment Extension, Late Submission Policy, Make up exams or absence

Attendance is essential to student success in this course.
Students are not required to provide medical notes in support of absences from class activities/requirements and from evaluations including final examinations. However, students need to report to the instructor within 48 hours after missing a class/quiz/test/assignment.
Assignment extensions make up exams or absence on required days will be given only with the professor's permission, and it will grant in cases of genuine need (sickness, death or funeral of a close relative). You will need to talk to me as soon as possible if you require an extension.
Late submissions will be marked, but do not expect a prompt return of the work. Late submission will incur a deduction of 5% for each weekday that the assignment is submitted after the deadline, unless an assignment extension has been permitted by me in advance of the deadline. Arrangements should be made with the professor in the case of missed exams.

Additional comments

If you have any conflict with these scheduled lecture exams, talk to the professor now (that is, at the beginning of the semester). Please don't wait until the exam is upon us to present your conflict.
Use of Third-Party Detection and Submission Tools
Electronic detection tools may be used to screen assignments in cases of suspected plagiarism.
If you are struggling with coursework or any of life's other challenges please familiarize yourselves with the resources available in to you by visiting the Student Affairs website at http://umanitoba.ca/student/index.html The site contains helpful general information as well as links to webpages for the Aboriginal Student Centre, the International Centre for Students, the Academic Learning Centre, Student Advocacy & Accessibility, the Student Counselling & Career Centre, and University Health Service.

Important Dates

March 31, Wednesday. Voluntary Withdrawal (VW) Deadline

Class Schedule

This schedule is subject to change at the discretion of the instructor and/or based on the learning needs of the students

Month	Day	Module	Topics, Readings, Assignments, Exams
January	19	Fresh Meat	Introduction / Overview of Meat industry /
	26		Slaughtering Operations and By-products
February	2		Carcass evaluation and grading systems / Carcass and meat composition
	9		Muscle chemistry pre- and post-mortem / Properties of fresh meat **(Class activity)**
	16		**Louis Riel Day / Mid Term Break**
	23		Palatability of fresh meat / Technology Post-mortem I
March	2		**First Mid-term exam**
	9	Processed Meat	Technology Post-mortem II / Meat processing I
	16		Meat processing II **(Group activity)**
	23		Meat processing III / Meat cookery and cooked meat products
	30		**Second Mid-term exam**
April	6	Meat Safety	Storage and Preservation of Meat / Meat Inspection and Food Safety
	13		Best Practice in fresh and processed meat / Pre- and post-harvest intervention **(Class activity)**
	19	**Final Exam**	
May	1		