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

FOOD 4310 – Introduction to Hazard Analysis and Critical Control Points (HACCP)

Course Outline: Fall 2020

Credits: (3-0:0-0) 3 credit hours: Fall Term 2020 (Classes Begin September 9th, 2020)

Class Times: Wednesday evenings – 5:30 PM to 8:20 PM (No class November 11th)

Location for Classes: This course is delivered remotely. Students are expected to be on line and logged in during the scheduled class times.

Prerequisite: Food Microbiology 1 (FOOD 4150) or permission from instructor

Voluntary Withdrawal Deadline: November 23rd, 2020

Instructor: John Thoroski, Dept. of Food and Human Nutritional Sciences
(Available during normal working hours)
Room 006A – Dairy Science Building
Room 203 – Ellis Building
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Course Description: The purpose of the course is to impart the basic knowledge required to implement and sustain hazard analysis and critical control points (HACCP), a food safety and self-inspection system that is widely used and endorsed internationally by industry, regulatory agencies, and consumer groups. Sanitation practices and sanitary design for the food industry are also studied.

Offered in alternate years.

Course objectives
At the completion of this course, the student should be able to:

1. Describe the vocabulary, evolution, and history of food safety programs which provide a basis for the HACCP system.

2. Identify and explain all of the steps (including the Prerequisite Programs and the HACCP principles) involved in the application of a working HACCP system. This will

be accomplished by classroom demonstrations, the examination of models, and working through the class project.

3. Implement a working HACCP plan.

4. Explain and illustrate how HACCP principles apply to food processing, food service and on-farm production using specific examples.

5. Give advice on the requirements for sanitary design of food establishments and processing equipment.

6. Outline effective sanitation procedures and devise a basic sanitation program.

7. Instruct and guide others on the implementation of a viable HACCP plan.

Texts: There are no required texts. Computer generated notes will be provided by the instructor. HACCP related topics from trade and scientific journals may also serve as required reading. *The Food Safety Enhancement Program Implementation Manuals* published by the Canadian Food Inspection Agency will be used as the basis for the course.

References: HACCP- a practical approach. Mortimore, S., and Wallace, C. (Third Edition). 2013. Chapman and Hall, UK.

HACCP- principles and applications. Pierson, M. D. 1992. Springer, US

HACCP- user's manual. Corlett, D. A. 1998. Aspen Publishers, Inc. Gaithersburg, Md.

Subject Outline:

1. Introduction: Definitions, Responsibilities, HACCP, TQM, FSEP, SQF, BRC, GFSI, SFCR, and other food safety / quality systems and regulatory issues.

2. Prerequisite programs (GMPs):
- -Premises (includes sanitary design)
- -Transportation (Purchasing, Receiving, Shipping) and Storage
- -Equipment
- -Personnel
- -Sanitation and pest control
- -Recall
- -Operational Prerequisite Programs

3. Sanitary Design and Standards for Equipment and Premises, and Sanitation Principles for Food Manufacture

4. Getting Ready for HACCP Implementation

-Assemble the HACCP team
-Describe the product
-Intended use and distribution
-Develop a flow diagram
-Verify flow diagram
-Draw a plant schematic

5. HACCP principles

-Conduct a hazard analysis
-Determine critical control points (CPP)
-Establish critical limits
-Establish monitoring procedures
-Establish Corrective actions
-Establish verification procedures
-Establish record-keeping and documentation procedures

6. Application of Prerequisite Programs and HACCP principles to food processing through group project.

7. HACCP case studies using generic models and class project HACCP Plans (includes audit procedures)

Schedule for Tests and Class Project: September 30th – Quiz #1
October 21st – Mid Term Exam
October 28th – Initiation of Class Project
November 25st – Quiz #2
December 9th – Class Project Due Date
Final Exam Date To Be Determined

- Late assignments will be downgraded. Missed tests must be completed and may be rescheduled with the consent of the Instructor.

Marks Awarded

Midterm:	20%
Quizzes:	10 %
HACCP Term Project:	20%
Attendance:	10%
Final examination:	40%

Grades:	A+	90-100	C+	65-69.9
	A	80-89.9	C	60-64.9
	B+	75-79.9	D	50-59.9
	B	70-74.9	F	under 50

Class Attendance: Attendance **will be monitored** and **graded** as listed above.

Evaluative Feedback: This will be both formative and summative**.** Each quiz and midterm test will be reviewed and discussed in the subsequent class. Class project feedback and suggestions will be ongoing during the time required for completion. The evaluation of the class project will be completed within 7 working days after submission and carried out according to current auditing practices within the food industry. Feedback and evaluation detail will be available upon request.

Electronic Equipment (course technology): Electronic equipment (IPhone, laptop, notebook, etc.) is permitted during regular class time providing it does not disrupt other students. This equipment is not permitted during quizzes, tests, or exams.

Class Communication: Course material will be presented thoroughly during class time and all of the digital materials presented in class will be posted on UM Learn. Discussion and questions during class time are encouraged.
The University requires all students to activate an official University email account. Please note that all communication between me and you as a student must comply with the electronic communication within the student policy. You are required to obtain and use your U of M email account for all communication between yourself and the university.

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, 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.

Students with Disabilities: Students with disabilities are encouraged to contact Student Disability Services in order to facilitate the implementation of accommodations. The Instructor will be available to meet with Students to discuss the accommodations recommended by Student Disability Services.

Students Services: A list of students services provided by the University of Manitoba will be posted in UM Learn for this course.

Expectations: The instructor will review expectations in the first class.

Policy on Plagiarism and Cheating
"Plagiarism or any other form of cheating in examinations, term tests or academic work is subject to serious academic penalty (e.g. suspension or expulsion from the faculty or

university). Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials into the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam impersonation. (Please see Section 4.2.8 on Exam Personation). A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.
To plagiarize is to take ideas or words of another person and pass them off as one's own. In short, it is stealing something intangible rather than an object. Plagiarism applies to any written work, in traditional or electronic format, as well as orally or verbally presented work. Obviously it is not necessary to state the source of well known or easily verifiable facts, but students are expected to appropriately acknowledge the sources of ideas and expressions they use in their written work, whether quoted directly or paraphrased. This applies to diagrams, statistical tables and the like, as well as to written material, and materials or information from Internet sources.
To provide adequate and correct documentation is not only an indication of academic honesty but is also a courtesy which enables the reader to consult these sources with ease. Failure to provide appropriate citations constitutes plagiarism. It will also be considered plagiarism and/or cheating if a student submits a term paper written in whole or in part by someone other than him/herself, or copies the answer or answers of another student in any test, examination, or take-home assignment.

Working with other students on assignments, laboratory work, take-home tests, or on-line tests, when this is not permitted by the instructor, can constitute Inappropriate Collaboration and may be subject to penalty under the Student Discipline By-Law.
An assignment which is prepared and submitted for one course should not be used for a different course. This is called "duplicate submission" and represents a form of cheating because course requirements are expected to be fulfilled through original work for each course.

When in doubt about any practice, ask your professor or instructor."

The Student Advocacy Office, 519 University Centre, 474-7423, is a resource available to students dealing with Academic Integrity matters.

Plagiarized material will receive a grade of ZERO (0) in this course.