



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

Course Outline: Fall 2022

Credits: (3-0:0-0) 3 credit hours: Fall Term 2020 (Classes Begin September 7th, 2022)

Class Times: Wednesday evenings – 5:30 PM to 8:20 PM (No class November 9th)

Location for Classes: Ellis Building Room 245

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

Voluntary Withdrawal Deadline: November 22nd, 2022

Last date to drop a course with refund: September 20, 2022

Instructor: John Thoroski, Dept. of Food and Human Nutritional Sciences
(Available during normal working hours)
Room 006A – Dairy Science Building
Room 203 – Ellis Building
Phone # 204 474 9332
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Course Description: *This course will cover the principles related to hazard analysis and critical control points (HACCP), a food safety and self-inspection system that is widely endorsed internationally by industry, consumer and regulatory groups. HACCP examines chemical, physical and biological hazards and identifies critical control points involved in producing, manufacturing and processing food products. The purpose of the course is to impart the basic knowledge required to implement and sustain hazard analysis and critical control points (HACCP) programs within industry, regulatory agencies, and consumer groups. Sanitation practices and sanitary design for the food industry are also studied.*

Offered in alternate years.

Learning objectives and course goals:

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. Chapman and Hall, 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
 - 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
4. Sanitation Principles for Food Manufacture
5. 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

6. 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

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

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

Schedule for Tests and Class Project: September 28th – Quiz #1
October 19th – Mid Term Exam
October 26th – Initiation of Class Project
November Nov 23rd – Quiz #2
December 12th – Class Project Due Date (last day of classes)
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.

Assignment Descriptions: Formats, referencing style, and grading rules for the term project for FOOD 4310 will be posted on UM Learn.

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.

Using Copyrighted Material: Please respect copyright. We will use copyrighted content in this course. The content should be appropriately acknowledged and is copied in accordance with copyright laws and university guidelines. Copyrighted works, including those created by the instructor, are made available for private study and research and must not be distributed in any format without permission. For more information, see the University's Copyright Office website at <http://umanitoba.ca/copyright/> or contact um_copyright@umanitoba.ca

Student Accessibility Services: The University of Manitoba is committed to providing an accessible academic community. Students Accessibility Services (SAS) offers 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
520 University Centre
Phone: (204) 474-7423
Email: Student_accessibility@umanitoba.ca

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.

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.

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.