

Syllabus  
FOOD 4200, Quality Control in Foods  
(A01, Fall 2022)

## Syllabus Contents

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# Course Details

**Course Title**

Quality Control in Foods

**Course Number**

FOOD 4200

**Term**

Fall 2022

**Credit Hours**

3.0

**Pre-requisites:**

Undergraduate level FOOD 3010 Minimum Grade of D or Undergraduate level 078 301 Minimum Grade of D

**Class Times & days:**

10-11:15 am, Tuesdays and Thursdays

**Class location**

Agriculture Building, Room 343

## Instructor Contact Information

**Name**

Snehil Dua, PhD.

Please address me as Snehil or Dr. Dua or anything polite.

Pronouns: She/her

**Email**

[Snehil.Dua@Umanitoba.ca](mailto:Snehil.Dua@Umanitoba.ca) (the best way to get in touch with me).

In today's time, it is becoming difficult to maintain a balance between work and personal life. To create this balance, I will promise to respond to your emails between 8:30 am and 5 pm on weekdays. I may respond at other times, but I do not promise to do so.

**Office location**

408 Human Ecology Building

**Office Phone**

204.474.6505 (Not the best way to get in touch with me. Do not leave a message at this number. I will not get the message. Email me instead)

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Faculty of Agriculture and Food Sc,



Office/Student/Learner Hours

Drop-in office hours on Fridays between 12:30-1:30 PM.

## Traditional Territory/Land Acknowledgment

I share the University of Manitoba's acknowledgement,

*The University of Manitoba campuses are located on original lands of Anishinaabeg, Cree, Oji-Cree, Dakota and Dene peoples, and on the homeland of the Métis Nation. We respect the Treaties that were made on these territories, we acknowledge the harms and mistakes of the past, and we dedicate ourselves to move forward in partnership with Indigenous communities in a spirit of reconciliation and collaboration.*

I am an immigrant to Canada and am mindful of the fact that the land I have chosen to be my new home is the land of the Indigenous people of Canada. As a naturalized citizen of this beautiful country, I believe that it is my duty to respect the Treaties that were made on these territories.

I am aware of and will continue to learn of the injustices and traumas experienced by the Indigenous peoples, but also the richness and diversity of Indigenous cultures and knowledge, and their resilience. Too much destruction has been brought to this land, and I am committed to doing everything in my power to restore our connection to this land. Personally, I enjoy my meals the most when I have grown some of the ingredients in my garden. I truly believe that if we grow and cook our food, we are more appreciative of the food, enjoy it more, and tend to waste less. My mantra is, "Grow your own food; if you can't grow, at least cook your own food; and if not that, then at least look at your food". We need to build a connection with everything we consume, for our own health and wellbeing.

I am thankful for the clean water supply I often took for granted. Only recently I have learned that the water that I drink and use in Winnipeg that is sourced from Shoal Lake 40 First Nation has caused forced relocation and distress to the original inhabitants of this beautiful land.

In my classroom, I will remain open minded to all ideas and thoughts because such open-mindedness will benefit us all as a society.

## Equity And Inclusion Commitment

Fairness and respectfulness are my most important values that I would never compromise on. I assure you that if you feel that I have treated any student unfairly in any way, I would like to know it so that I can reflect and correct. Being a cis-gender female, I will encourage

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you to bring to my attention anything I do or say that is perceived as my insensitivity to your identity. I honor your identity and will do my best to remove any hurdles in my class that prevent you from expressing yourself freely.

I recognize that we all have travelled different journeys which have shaped our personalities. Some of us have had more privileges than the others. Some of us had to endure more hardships than others. Recognizing this, I have designed this course with care.

You will notice that your ideas will carry more weight than how you express those ideas, in my course. Though I want you to develop professional communication skills, but I recognize that we may express ourselves differently owing to our journey thus far. Some of us have had more experience with expressing ourselves succinctly in the English language while other might have more proficiency in other languages. Thus, I have designed the grading rubrics that encourage you to write professionally with clarity but give more weight to your ideas and hard work.

Recognizing that you may have different responsibilities in your personal lives, whenever possible, I will give you some flexibility in when you complete the assessments for this course.

## Course Description

### U of M Course Calendar Description

Fundamentals of quality control and their industrial application through physical, chemical, microbiological, statistical and sensory methods will be studied. Statistical process control (SPC) will be mainly covered; required background knowledge of statistics will be reviewed briefly. Prerequisite: FOOD 3010.

### General Course Description

Instructional Methods: Instructional methods include a combination of lectures, class discussions and work-integrated learning project. The course will be evaluated based on WIL project presentations, tests and a final exam. Effective communication skills are necessary for successful completion of this course.

## Course Learning Outcomes

Food requires inspection at all stages from primary production to final retail distribution in order to ensure that required standards of quality and safety are met. This course will cover various quality control principles as well as sampling and inspection regimes that will prepare students to meet the varying requirements of food manufacturers and retailers

### Intended Learning Outcomes

- I. Describe the background and current requirement for quality control and quality management systems.

*Explain what has led to the current quality management systems*

*Outline the main requirements of a quality control system*

- II. Recognize the requirements necessary to ensure safe, quality food.  
*Identify conditions for inactivation of important pathogens commonly found in foods*  
*Apply appropriate evaluation tools needed to produce a safe food.*  
*Evaluate sanitary practices and environmental factors (i.e., Aw, pH, temperature) that control growth and response of microorganisms.*  
*Describe techniques, including sensory evaluation, for determination of product quality.*
- III. Identify food quality specifications  
*Recognize the source and variability of raw food material and impact on food quality*
- IV. Prioritize attributes/problems specification in raw and processed material based on production data  
*Illustrate how processing techniques can affect product quality.*  
*Predict quality of selected products.*  
*Ensure government regulations are reflected in the specifications provided*
- V. Apply appropriate sampling plans for a given attribute and product.  
*Use statistical methods to select appropriate sample plan*  
*Develop sampling plan for a given data set*
- VI. Construct and interpret an operating characteristics curve to effectively evaluate consumer and producer risks
- VII. *Construct an operating characteristic curve based on statistical probabilities for a given data set.*
- VIII. *Interpret the significance of a given point on the operating characteristic curve.*  
*Compare different operating characteristic curves.*  
*Create control charts for attributes, a vital segment of statistical process control (SPC), to record and report QC data.*

## Course Materials

### Required Materials

the University of Manitoba Libraries. They include:

Alli, I. 2004. Food Quality Assurance: Principles and Practices. CRC Press, Washington DC  
Besterfield, DH. 1998 (2001). Quality Control, 5th Ed. (6th Ed) Prentice Hall, Inc., Upper Saddle River, NJ.

Clute, M. (2016). Food industry quality control systems. Syrawood Pub House. Hubbard, MR.  
2003. Statistical Quality Control for the Food Industry, 3rd Ed. Kluwer Academic/Plenum Publishers, New York, NY

Montgomery, DC. 1996. Introduction to Statistical Quality Control, 3rd Ed. John Wiley & Sons, Inc., NY.

Omachonu, VK., Ross, JE. and Swift, JA. 2004. Principles of Total Quality, CRC Press, Boca Raton FL

Siebels, D. 2004. The Quality Improvement Glossary. ASQ Quality Press. Milwaukee, WI.

Vasconcellos, JA.. 2004. Quality Control for the Food Industry. CRC Press LLC., Boca Raton, FL

WA Gould. 2001. Total Quality Assurance for the Food Industries. CTI Publication Inc.,

Timonium, MD.

### Technology

- You must bring a computer and have access to UMLearn to be able to attempt the midterm test and the final exam
- An access to UMLearn will be required to access course material and to complete course assessments.

### UM Learn

I will demonstrate in the class how you would need to use UMLearn

## Course 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 ROASS \(https://umanitoba.ca/governance/governing-documents-academic#responsibilities-of-academic-staff-with-regard-to-students\)](https://umanitoba.ca/governance/governing-documents-academic#responsibilities-of-academic-staff-with-regard-to-students).

| Date      | Class Content & Teaching Strategies                  | Required Readings or any Pre-class Preparation | Evaluation         |          |                      |
|-----------|--|--|--------------------|----------|----------------------|
|           |  |  | Type of Assessment | Due Date | Value of Final Grade |
| Th Sep 8  | Orientation and an introduction to the course        | None   | None               | NA       | NA                   |
| T Sep 13  | Lecture 1: An introduction to quality                |  |                    |          |                      |
| Th Sep 15 | Lecture 2: Food safety in quality                    | None   | None               | NA       | NA                   |
| T Sep 20  | Lecture 3 Total quality management (TQM): philosophy |  |                    |          |                      |
| Th Sep 22 | Lecture 3 TQM tools                                  |  |                    |          |                      |
| T Sep 27  | Lecture 3 TQM tools                                  |  |                    |          |                      |



|                  |  |  |   |                         |            |
|------------------|--|--|---|-------------------------|------------|
| <b>Th Sep 29</b> | Lecture 4 Six sigma quality                                    |  |   |                         |            |
| <b>T Oct 4</b>   | Lecture 4 Six sigma quality                                    |  |   |                         |            |
| <b>Th Oct 6</b>  | Lecture 5 Audit  |  |   |                         |            |
| <b>T Oct 11</b>  | Lecture 6 Preventive control plan, and Lecture 7 Recalls       |  |   |                         |            |
| <b>Th Oct 13</b> | Lecture 8: Control charts                                      |  |   |                         |            |
| <b>T Oct 18</b>  | Lecture 8 continued: Control charts                            |  | Assignment 1 on Control charts, Open book                         | Due Oct 23 by 11:55 PM  | <b>10%</b> |
| <b>Th Oct 20</b> | Lecture 9 Acceptance sampling                                  |  |   |                         |            |
| <b>T Oct 25</b>  | Midterm test   |  | Online test (closed book)<br>In-class Lectures 1-8                | Oct 20 10 AM 70 minutes | <b>25%</b> |
| <b>Th Oct 27</b> | Lecture 10 Operating characteristic curves, and balancing risk |  |   |                         |            |
| <b>T Nov 1</b>   | Lecture 11 Operating characteristic curves, and balancing risk |  |   |                         |            |
| <b>Th Nov 3</b>  | Lecture 12: Writing specifications                             |  | Assignment 2 on OC curve and balancing risk, Open book assignment | Nov 6 by 11:55 Pm       | <b>10%</b> |
| <b>Break</b>     |  |  |   |                         |            |
| <b>T Nov 15</b>  | Work on your project   |  |   |                         |            |
| <b>Th Nov 17</b> | Project update for each group                                  |  | In class  |                         |            |

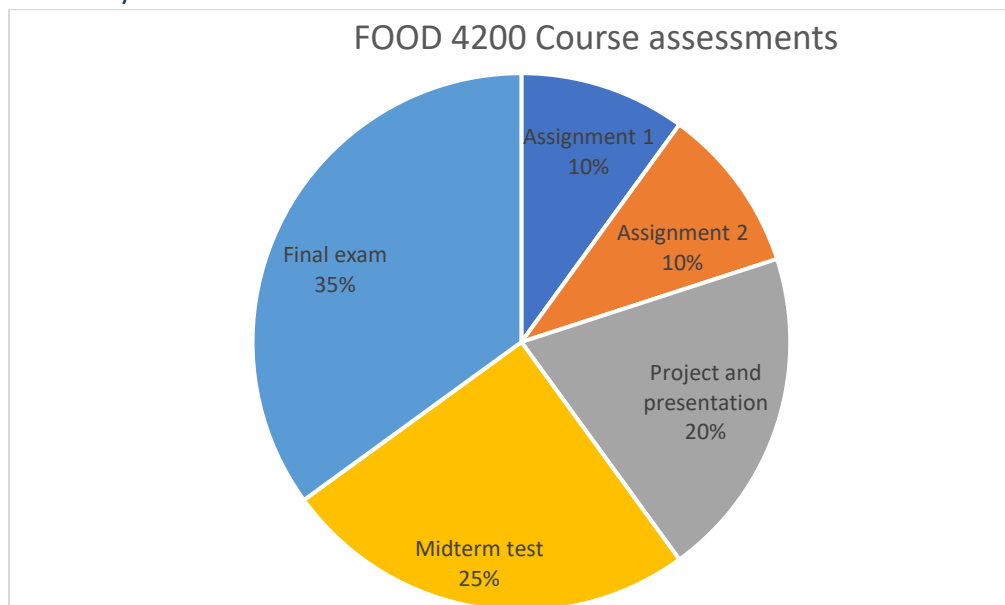
|                  |                      |  |                                   |     |   |
|------------------|----------------------|--|-----------------------------------|-----|---|
| <b>T Nov 22</b>  | Work on your project |  |                                   |     |   |
| <b>Th Nov 24</b> | Presentations        |  |                                   |     | <b>Project + presentations 20% (Must pass to pass the course)</b> |
| <b>T Nov 29</b>  | Presentations        |  |                                   |     |   |
| <b>Th Dec 1</b>  | Presentations        |  |                                   |     |   |
| <b>T Dec 6</b>   | Presentations        |  |                                   |     |   |
| <b>Th Dec 8</b>  | Wrap-up              |  |                                   |     |   |
| <b>Dec 13-23</b> |                      |  | FINAL EXAM PERIOD (Comprehensive) | TBA | <b>35%</b>  |

## Course Evaluation/Assessments

| Evaluation   | Due Dates                     | Weight     | Details  |
|--|-------------------------------|------------|--|
| <b>Assignment 1 on Control charts, Open book</b>                         | Due Oct 23 by 11:55 PM        | <b>10%</b> | Please submit on UMLearn   |
| <b>Assignment 2 on OC curve and balancing risk, Open book assignment</b> | Nov 6 by 11:55 Pm             | <b>10%</b> | Please submit on UMLearn   |
| <b>Project</b>   | Final presentations (Dec 1-8) | <b>20%</b> | Mid point and final checks will be done prior to final group presentations. The group presentation slides must also be submitted on UMLearn prior to the presentation time.<br>Each student must work a t least 15 hour individually on eh project work in addition to the presentation preparation. |
| <b>Midterm test Online test (closed book) In-class Lectures 1-8</b>      | Oct 20, 10 AM 70 minutes      | <b>25%</b> | MCQs, short answers, graphs etc.   |

|                   |  |     |  |
|-------------------|--|-----|--|
| <b>Final exam</b> | Please refer to the final exam schedule on Aurora, available in October 4th week | 35% | The exam will consist of multiple choice, short answer, and long answer questions. |
|-------------------|--|-----|--|

## Summary



## Assessment Descriptions

The dates are provided above in the schedule for each assessment. Please refer to the Course Walk-through link available on provided below to learn how to access and submit each assessment on UMLearn.

**Assignment 1 and 2:** Must be typed. Submit on UMLearn under the appropriate assignment submission folder.

**Paperless midterm test (25%):** The test must be completed on UMLearn in the classroom. You must bring a laptop to complete the test in the class. If you do not have access to a laptop, you must inform me, your instructor, by Oct 13, 4:30 PM so that I can accommodate you.

Attendance will be recorded. If you attempt an exam but are not present in the class, your exam will be disregarded, and a letter of allegation will be submitted to the department.

**Project (20%):** You will work in groups of 2-4 with a local food business to complete a quality or safety related project assigned to you by the company. The project assignment will be done by the end of September via UMLearn. This is a mandatory project to pass his course. As a group, you must give a presentation to apprise the class of the tasks accomplished by you. Your business supervisors will be in attendance for these presentations.

Learning outcomes:

- You will be able to apply some of the knowledge of the course in a real-world environment. (Topics may include but are not limited to quality control methods,

problem-solving, food safety related issues, document creation for PCPs, Recall, and Specification procedures).

- You will be able to demonstrate professionalism, leadership, and good communication skills.
- You will be able to make a connection with a local food business.
- You will be able to effectively present your project after completion.

**Final exam (35%):** The final exam will be paperless. You must be present in the examination room to attempt the test. If you attempt the test but were absent in the examination room, it will be reported as an incident of academic dishonesty. If you are unable to bring a computer to the exam room, you must inform me (your instructor) by Dec 12 so that I can make alternative arrangements for you. The syllabus and format are given in the course schedule above. Final exam will be scheduled by the Registrar's office. They will release the schedule on Aurora later in the term. Please do not make requests to me asking to schedule your exam at a different date/time. I do not have authority to do so.

### Assignment Feedback

The midterm test will be graded within 7 days of the test. If you wish to review your exam, please drop in during my office hours no later than 15 after you receive your marks for the test. Online feedback will not be available.

The assignments will be graded by the TAs. You should expect the feedback on UMLearn in about one week after the deadline.

## Grading

Please do not request me to give you opportunities for extra credits. Such requests will be denied.

I will follow the following grade scheme. For example, if you score 79.96, your score will be rounded up to 80. If you score 79.6, your score will not be rounded up to 80.

| Letter Grade | Percentage out of 100 | Final Grade Point |
|--------------|-----------------------|-------------------|
| A+           | 90-100                | 4.5               |
| A            | 80-89.9               | 4.0               |
| B+           | 76-79.9               | 3.5               |
| B            | 70-74.9               | 3.0               |
| C+           | 65-69.9               | 2.5               |
| C            | 60-64.9               | 2.0               |
| D            | 50-59.9               | 1.0               |
| F            | Less than 50          | 0                 |

# Expectations

Please refer to the [Respectful Work and Learning Environment Policy \(https://bit.ly/3aMI7nE\)](https://bit.ly/3aMI7nE) of our university.

- I expect you to take notes in the class. The slides provide only the main points for each lecture. Additional information will be provided during the lecture. Please add such information to your slides.
- In the class, please pay attention to the lecture and ask me to repeat/clarify anything that is not clear. Please avoid asking your classmates to clarify during a lecture.
- If you have questions during the class, please ensure that those questions are directly related to what is being discussed at that time.
- Please ask questions related to assignments/tests/labs etc. either at the start of the class or at the end. Refrain from asking about these during a lecture.
- I expect that you join the class in time and not leave until the class is over. If you must arrive late or leave early, please do so without disturbing others.
- Where group work is assigned, I expect that you work as a team, with each member contributing equitably. Being able to work collaboratively is an important skill. In this course you will get opportunities to develop this skill.
- Please be respectful to one another. It is acceptable to disagree with one another, but it is unacceptable to be disrespectful.
- In the group project, all members of a group must participate fully.
- Please be safe. When in doubt, ask your TA.

# Course Policies

## Academic Integrity

- The University of Manitoba's policy for academic integrity is located within the Student Discipline Bylaw and Student Academic Misconduct Procedure. Please refer to the policy and procedures as listed in the UM Policies section below.
- You are expected to complete your coursework and programs of study with integrity by making a commitment to the six fundamental values of honesty, trust, fairness, respect, responsibility, and courage.
- If a test/assignment is individually assigned, you must not work collaboratively.
- Academic integrity looks like referencing the work of others that you have used and completing your assignments independently unless otherwise specified. **Copying and pasting from other sources will be considered plagiarism.** Please paraphrase and provide references. Be very judicious in the use of quotations. Quotations are used only when something has been written very artistically or technically such that

paraphrasing it may lead to the loss of its meaning. Another reason to use quotations would be when you are stating something an author has said but you don't quite agree with the statement. Or when you want your point of view to be validated by an authority, you may use quotations. In all other cases, paraphrase.

- Group members must ensure that a group project adheres to the principles of academic integrity. This means that all students are required to check that all sourced material has been cited and referenced.
- Do not share course materials (e.g., notes, exam questions, assignment instructions, article) that have been created by the instructor or were authored by another person. Unpermitted sharing of such materials with your peers or with note-sharing companies, such as One Class, Course Hero, or Chegg (or other similar websites), is a violation of Copyright Law.
- Do not submit lab reports or other types of assignments already graded in another course.
- Plagiarism, duplicate submission, cheating on quizzes, tests, and exams, inappropriate collaboration, academic fraud, and personation are violations of the Student Discipline Bylaw and will lead to the serious disciplinary action. Visit the Academic Calendar, Student Advocacy, and Academic Integrity web pages for more information and support.

### Accessibility

The University of Manitoba is committed to providing an accessible academic community. [Students Accessibility Services \(SAS\)](https://umanitoba.ca/student-supports/accessibility) (<https://umanitoba.ca/student-supports/accessibility>) 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.

520 University Centre

(204) 474-7423

[Student\\_accessibility@umanitoba.ca](mailto:Student_accessibility@umanitoba.ca)

### Attendance

I will strongly advise that you attend all classes, but I do recognize that circumstances may arise due to which you may have to miss a class. When you attend a class, you will have the opportunity to take notes, and get clarifications. If you must miss a class, please request your classmates to help you complete your notes. After studying the notes of a missed lecture, if something is unclear, please visit me during my office hours to seek clarifications. Please do not expect me to repeat the entire lecture for you. You must first study the notes yourself before you seek clarifications.

### Assignment Extension and Late Submission Policy

Should you need an extension for an assignment/test/quiz, you must complete the Self-declaration form for brief and temporary absence. The form is available to you on UMLearn.

If you miss the final exam due to illness or compassionate reasons, please contact your own faculty to request a deferral. Your instructor, I, do not have any authority to change the schedule of your final exam.

### Class Communication

You are required to obtain and use your University of Manitoba email account for all communication between yourself and the university. All communication must comply with the Electronic Communication with Student Policy:

[http://umanitoba.ca/admin/governance/governing\\_documents/community/electronic\\_communication\\_with\\_students\\_policy.html](http://umanitoba.ca/admin/governance/governing_documents/community/electronic_communication_with_students_policy.html).

When you email me, please indicate the course number in your email. I teach multiple courses and will not be able to respond to your email if you do not mention the course number. Please check the syllabus and UMLearn announcements to see if your question has been answered there. If not, please email me. I will try my best to respond within 24h on weekdays.

### Recording Class Lectures

My notes and lectures are my copyright material. No audio or video recording of lectures or presentations is allowed in any format, openly or surreptitiously, in whole or in part without permission from me (Snehil Du). Course materials (both paper and digital) are for your private study and research.

### Referencing Style

Please use APA format wherever applicable.

### Technology Use

Please read [Respectful Work and Learning Environment policy \(RWLE\)](https://bit.ly/3OxGtnd) (<https://bit.ly/3OxGtnd>)

It is the general University of Manitoba policy that all technology resources are to be used in a responsible, efficient, ethical, and legal manner.

In my class, you may use computers, tablets etc. for note taking. Please use technology only for course related activities during the class.

You must bring a computer or a tablet to attempt your tests and exams. You will not be allowed to attempt tests on cellphones.

### 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 UMLearn) or any website (e.g., Course Hero, Chegg, etc.), unless an exception to the

Copyright Act applies or written permission has been confirmed. For more information, see the [University's Copyright Office website \(http://umanitoba.ca/copyright/\)](http://umanitoba.ca/copyright/) or contact [um\\_copyright@umanitoba.ca](mailto:um_copyright@umanitoba.ca).

## UM Policies

- [Schedule A \(PDF\) \(https://bit.ly/3NVSToL\)](https://bit.ly/3NVSToL)

## UM Learner Supports

- [Schedule A \(PDF\) \(https://bit.ly/3NVSToL\)](https://bit.ly/3NVSToL)