
ACKNOWLEDGEMENT

UBC's Point Grey Campus is located on the traditional, ancestral, and unceded territory of the xwməθkwəy̓əm (Musqueam) people. The land it is situated on has always been a place of learning for the Musqueam people, who for millennia have passed on their culture, history, and traditions from one generation to the next on this site.

COURSE INFORMATION

Course Title	Course Code Number	Credit Value
Advances in Food Science	FOOD 510	3

PREREQUISITES

There is no prerequisite for this course

COREQUISITES

There are no corequisites for this course

CONTACTS

Course Instructor(s)	Contact Details	Office Location	Office Hours
Dr. Jerzy Zawistowski Dr. Azita Madadi Noei	Please contact us via Canvas internal email. We will respond within 24 hours. If you email on Friday evenings or weekends, please expect a longer wait time		There are no set office hours for this course. Students are encouraged to contact the instructors during class or through Canvas internal email to make an appointment

COURSE INSTRUCTOR BIOGRAPHICAL STATEMENT

You may find more information about the instructors in the following links

<http://mfs.landfood.ubc.ca/faculty-staff/dr-jerzy-zawistowski/>

<http://mfs.landfood.ubc.ca/faculty-staff/dr-azita-madadi-noei/>

COURSE STRUCTURE

The class will usually meet twice weekly, for 1.5 hours each on Mondays and Wednesdays.

- During this class time, the instructors will provide an overview and background about the topics under consideration, and will facilitate class discussions to promote more in-depth exploration (Please refer to the tentative course schedule for information on dates and topics)
- Students will complete background and assigned readings (before each class), and actively participate in discussions on the topics under discussion.
- Students demonstrate their learning of key concepts in short in-class pop quizzes.
- Students will work individually to find a topic for the “food bites” assignment. (Details are provided in the assignment section.)
- Students will work in groups to conduct more in-depth research on specific subtopics for each of the two assignments. The groups will summarize their findings to colleagues in class using oral presentations and brief handouts and lead the class in discussions on these topics.
- There will be guest speakers to share their experiences and knowledge on advances in food science.
- Students will write a final term report on a specific topic of their choice related to advances in food science.

SCHEDULE OF TOPICS

Please see the [tentative schedule on Canvas](#).

LEARNING OUTCOMES

Upon successful completion of this course, students will

- have acquired a fundamental understanding of the multidisciplinary components that define the field of food science.
- develop skills to research and critique scientific literature, and to objectively evaluate the validity or credibility of information heard or seen in the media related to food science
- have experience in conveying information and personal views through oral and written communication, both in informal settings and in formal presentations and reports.
- have participated actively and effectively in teamwork
- be aware of the network of professional associations or societies involved in food science and technology
- be able to select topics and areas in food science that are of particular interest for more in-depth learning, investigation, and research.
- gain confidence in integrating and applying this information to
 - identify and control the factors that impact food quality and safety
 - define problems in food science and generate ideas to solve these problems
 - evaluate the present state of knowledge and practice in the food industry
 - assess the impact of emerging trends
 - generate new knowledge through basic or applied research

LEARNING ACTIVITIES

The course consists of lectures, synchronous and asynchronous discussions, in-class quizzes, individual and group presentations, and term papers. We will use Canvas and Zoom for our activities. Please review the system requirements for these two platforms

<https://community.canvaslms.com/t5/Canvas-Basics-Guide/What-are-the-browser-and-computer-requirements-for-Canvas/ta-p/66>

LEARNING MATERIALS

All required learning materials and resources for this course will be posted on Canvas. However, you may need to access library resources for your projects and presentations.

ASSESSMENTS OF LEARNING

- Participation (attendance, feedback and discussion) 10%
- Quizzes (individual) 10%
- Food Bites Assignment (individual) 15%
- Group Assignment 25%
- End-of-Term Report (individual) 40%

(Note that there will not be any final exam for this course)

Due dates and schedule of assignments, quizzes, term papers, and peer evaluation

	Date	Topic ¹
Assignment 1 Food Bites (individual)	Oct 15, 20, 22 in class²	Topic selection by Sept 29
Quizzes	Oct 1, Nov 3, Dec 1	Based on the background reading- see the schedule
Term Paper (Individual)	Nov 7³	Topic selection Oct 13
Assignment 2 (Group)	Nov 17, Nov 24, Nov 26 in class²	Topic selection by Nov 7
Peer Evaluation	Dec 4	Check the guidelines and template on Canvas

¹ Please refer to Pages 5-9 for a description of assignments, quizzes, and end-of-term papers.

² An electronic copy of your summary report must be posted on the Canvas Discussion board at **least 24 hours** before your presentation in class.

³ Please submit an electronic **copy** of the term report before 4 pm on the date noted above.

Please note: a 5%-mark deduction per day will be applied to all late assignments

Description of Quizzes, Assignments, and End-of-Term Paper

Quizzes and Discussions

The objectives of the in-class quizzes and discussions which take place throughout the term are to (a) encourage students to keep up with background readings during their own time, and (b) to attend the class prepared to demonstrate an understanding of key concepts, and to share, discuss and critically analyze specific topics in greater depth.

Format and grading:

Quizzes:

- Quizzes will be given throughout the term. Please see the schedule
- The content of the quizzes will be based on key concepts primarily from the background readings and or questions raised in class or on Canvas pertaining to those readings
- The format will involve short answer/multiple choice type of questions
- The quizzes will be in-person using Canvas quizzes- You need to bring in your device for quizzes (laptop or iPad)
- You need to install the lockdown browser on your devices prior to the quiz date. Please see the guide for installing the lockdown browser - <https://lthub.ubc.ca/guides/lockdown-browser-student-guide/>
- Grades for quizzes will be compiled at the end of the term and will contribute 10% of the final grade for this course

Discussions:

- Students should come to each class prepared to share a question or comment related to the topic for the day. Please refer to the schedule
- Students are expected to participate during each class actively, raising questions, sharing information and opinions regarding topics under study, including subject matter and questions brought to the attention of the class through the “food bites” and “group assignment” in the background and or supplementary readings
- Your grade for this component of the course will be based on the extent and the quality of your involvement in discussions, and will constitute 10% of the final grade for this course

Food Bite Assignments

The objectives of this assignment are a) to be informed of news, trends, and world events that influence or are of interest to the food industry, b) to reflect on and discuss how these affect us as food scientists; and c) to examine the diverse sources that report news related to food science.

Guidelines for a “Food Bites” presentation:

- The news, article, or event should be “current” or “recent,” meaning earlier than July 1st, 2025.
- Examples of sources of the information will be discussed in class.
- An 8-minute presentation followed by 2 minutes of class Q&A discussion period
- Visual aids may be used to support your presentation.

Structure of the “Food Bites” presentation:

- Give a concise summary of the main point(s) of the news, article, or event; remember to state the date/source of the information.
- Explain why you were interested in this news, article, or event; For example.
 - How has it changed your opinion and understanding, or informed you about specific aspects of food and food science? Did it prompt you to do further research into the topic?
 - Explain why/ how you think it could influence/impact different stakeholders (consumers, government, food industry, academics, researchers)

Scheduling of your “Food Bites” presentation:

There will be three dates for scheduling your presentation. The dates will be randomly assigned. However, you may switch with your peers by mutual agreement.

See the schedule for dates.

(6 -7) students/day, **depending on the total enrollment**

6-8-minute presentations +2-minute Q/A period

(Actual timing will be confirmed based on the number of students)

Summary report due at least 24 hours before the presentation

Please post the topic of your “Food Bites” assignment on Canvas as soon as you decide on it and share or provide the link to the news. There should be no duplicates of the topic, and approval will be on a first-come, first-served basis.

Grading- See the rubric for the evaluation

Please refer to the “forms” on Canvas for the grading rubrics.

Group Assignment

The objective of the group assignments is to work as a team to research, understand and communicate information about a specific topic related to advances in food science.

Guidelines for group work:

Each group will consist of 3-4 students. The instructors will discuss the group assignment.

Assignment Description:

Each group will prepare a brief written report and give a 30-minute presentation on a specific topic within the indicated subject areas.

Grading of Assignments:

The group Assignment is worth 25% of your total mark.

Your assignments will be assessed for the content (accuracy and quality of information) (35%), as well as the effectiveness and clarity of the oral presentation (35%) and written summary report (30%).

Please refer to the evaluation template sheet and grading rubrics on Canvas.

Group evaluation – Group assignments will earn an overall group mark, which may then be adjusted to reflect the participation of individual students in the group using a peer evaluation form.

Please complete the **group peer and self-evaluation form** using the template posted on Canvas at the end of the term and submit it to your instructor on or before the last class of the term (**See the schedule for the due date**).

Ideas for Specific Topics for Group Assignment

The following are examples of general themes of current interest in food science that could be developed into specific topics for this assignment. You are strongly encouraged to identify other areas of food science and specific topics within those areas that would be of particular interest to your group. Please discuss and consult with the instructor early in the term.

- **Organically versus conventionally grown produce – myths vs facts**
- **Advantame, the sweet new kid on the block**
- **Strategies and challenges of low-sodium meat products**
- **Biotechnology for enhancing the nutrient profile**
- **Nanotechnology for delivery of active ingredients**
- **Gluten-free products: technological and regulatory considerations**
- **Active packaging applications for safety and quality**

For more options, please see the Canvas

NOTE: Your topic must be approved by the instructors **See the schedule for the due date**

Suggested steps to complete the group assignment:

1. Review the supplementary readings list, food industry news, reviews, or primary articles in peer-reviewed journal publications for topic ideas.
2. Brainstorm, discuss the ideas amongst your group and decide on the topic.
3. Inform the instructor of your proposed selection **as soon as possible**. **See the schedule for the due date**. Each group must present a different specific topic.
4. Organize yourselves to conduct further research on the approved selected topic.
5. Meet with your group to share your findings and select appropriate information for presentation in class. Although you may use 1-2 review articles to get an overview of the topic, please be sure to dig deeper via primary peer-reviewed articles in the scientific literature
6. Each group should prepare a **30-minute oral presentation**, using visual aids such as PowerPoint slides, hard copy handouts (optional), etc.
7. Write a **summary report** (one per group) including the following:
 - a. **Abstract** (≤ 150 words); (b) 1-2 Page **Summary** of the topic (≤ 500 words; don't repeat the abstract); (c) **References** (no limit, but please asterisk three key references).
8. Submit an electronic copy of your report to the Canvas Discussion Board at least 24 hours before the presentation.
9. Present your topic in class; initiate further discussions and debates among everyone in the class.
10. Attend a short "debriefing" with the instructors after your presentation, to share your thoughts on what you learned and your experience doing this group assignment

(2 groups per day) **See the schedule for the due date**
25-minute presentation per group + 5-minute Q/A
Summary report due at least 24 hours before the presentation

Final End-of-Term Paper

The objective of the end-of-term paper is to integrate and apply what you have learned with your particular interest in a **specific topic in food science**, to conduct library research on this topic, and to communicate your findings in a written paper.

Guidelines for a term paper:

Please note that the term paper is a scholarly work written with a clear focus and specific objectives. It should not simply be a general review of a broad topic.

- You may select any topic related to advances in food science

Ideas generated from class discussions may be suitable for further development as topics for the paper, but the depth and/or scope of the paper must go beyond what has already been discussed in class.

Each student must research and write on a different specific topic.

To avoid overlap or duplication of topics among students, please discuss your proposed topic with your instructor early in the term. You must convey your final selected topic (tentative title of your report) to the instructors through the Canvas platform.

See the schedule for the due date.

- You must demonstrate that you researched the literature in preparation for writing the report. The bibliography for your report may include some review articles and information from credible websites, but most references must be from primary, peer-reviewed sources (scientific journals).
- Format for the report –

- This is a formal report and should be typed in double-spaced format, with a minimum font size equivalent to Times New Roman 12 or Arial 11.
- Please use the APA style for citing and listing the references.
- The report should be a maximum of 1500 words, not including the cover page, reference list, and any tables or illustrations that you may wish to include.

You may wish to organize your report into the following sections:

- Cover page (Title of the report, name, student number, course name, date)
- Abstract
- Introduction (briefly introduce the topic and why you selected it)
- Main Content (use specific descriptors for this heading and/or additional subheadings based on your topic; include tables and figures to illustrate key information)
- Conclusions
- Bibliography or List of References

Save your document as a doc file with “last name-first name” and submit it through Canvas. **See the schedule for the due date.**

Grading – This report is worth 40% of your total mark. The report will be graded for quality of the content as well as clarity of writing – please refer to the "Forms" on our Canvas course for the evaluation template and grading rubrics.

Participation

To achieve the participation mark, you need to be present in class, be actively involved in class discussions, contribute to Canvas discussion boards and provide thorough feedback for presentations. **See the rubric.**

UNIVERSITY POLICIES

UBC provides resources to support student learning and to maintain healthy lifestyles but recognizes that sometimes crises arise and so there are additional resources to access including those for survivors of sexual violence. UBC values respect for the person and ideas of all members of the academic community. Harassment and discrimination are not tolerated nor is suppression of academic freedom. UBC provides appropriate

accommodation for students with disabilities and religious observances. UBC values academic honesty and students are expected to acknowledge the ideas generated by others and to uphold the highest academic standards in all their actions.

Details of the policies and how to access support are available on [the UBC Senate website](#).

OTHER COURSE POLICIES

A warning about Plagiarism and Academic Integrity:

Please check out the **UBC Plagiarism Resource Centre**

<https://learningcommons.ubc.ca/academic-support/academic-integrity-citations/>

Ensure that you understand what qualifies as plagiarism when working on your assignments and final report.

Academic misconduct includes "submitting the same, or substantially the same, essay, presentation, or assignment more than once (whether the earlier submission was at this or another institution) unless prior approval has been obtained from the instructor(s) to whom the assignment is to be submitted.

<http://www.calendar.ubc.ca/vancouver/?tree=3,54,111,0>

LEARNING ANALYTICS

Learning analytics includes the collection and analysis of data about learners to improve teaching and learning. This course will be using the following learning technologies: Canvas and Collaborate Ultra. Many of these tools capture data about your activity and provide information that can be used to improve the quality of teaching and learning. In this course, we plan to use analytics data to:

- View overall class progress
- Track your progress to provide you with personalized feedback
- Review statistics on course content being accessed to support improvements in the course
- Track participation in discussion forums
- Assess your participation in the course

LEARNING RESOURCES

For those who have not previously taken any general food science courses, or for anyone who wishes to obtain a refresher, please read through the "background readings", posted on our course Canvas (login at www.elearning.ubc.ca), which are adapted from an undergraduate course "Exploring our Food" (FNH 200). *Note: You are welcome to explore the "activities" and "questions" that are posed in these lessons, but you are not required to complete them in the form of assignments for handing in as part of our graduate course.*

Lesson 1: Food Science & the Canadian Food System

Lesson 2: Chemical and Physical Properties of Food

Lesson 3: Fat & Sugar Substitutes

Lesson 4: Food Standards, Regulations & Guides

Lesson 5: Food Preservation

Lesson 6: Thermal Preservation of Foods

Lesson 7: Low-Temperature Food Preservation
Lesson 8: Dehydration for Food Preservation
Lesson 9: Food Preservation with Biotechnology
Lesson 10: Preservation of Food with Ionizing Energy
Lesson 11: Effects of Food Processing on Nutrient Retention
Lesson 12: Toxicants in Food & Food-borne Disease
Lesson 13: Trends in Foods for Nutrition and Health

(The majority of you have already completed this through a summer program. The modules are reposted for those who fell behind or want to review specific parts again.)

Additional Supplementary Readings

Additional readings related to the topics under discussion (see tentative schedule document) have been selected from IFT Scientific Status Summaries, Trends in Food Science & Technology, Food Technology, Critical Reviews in Food Science & Nutrition, and other Food Science publications. The supplementary readings are listed in Canvas.

UBC Library

Students will need to conduct library research to complete the course assignments. For some tips on resources available from the UBC library website, follow this link:

<http://www.library.ubc.ca/home/instruct/publist.html>

Alternatively, go to this webpage for more specific tips related to **research in food science**:

<http://guides.library.ubc.ca/foodscience>

Here is a link for useful information on "**Citation Style Guides**":

<http://www.library.ubc.ca/chapmanlearningcommons/citation.html>

Please follow the **APA Style** for the group assignments and your final formal report.

(<https://apastyle.apa.org/style-grammar-guidelines>)

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