

BRESCIA UNIVERSITY COLLEGE
SCHOOL OF FOOD AND NUTRITIONAL SCIENCES

Foods & Nutrition 2300B (Section 530)
Food Processing and Engineering

Course Director: Dr. S. Hekmat
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Office Hours: By appointment

Classes: **Wednesdays, 2:30-5:30PM (MRW153)**

Prerequisite(s): Food and Nutrition 1030E, Physics 1028A/B, Calculus 1000A/B or 1500A/B or Mathematics 1225A/B. Registration in the Food Science and Technology module or by permission of the Division.

Corequisite(s): Foods and Nutrition 2232.

Course Description: Covers food processing and engineering principles. Includes lectures (fundamentals of the various food processing and food preservation techniques) and site visits to food industry processing plants. Visits allow students to see plants in operation and to examine standard food processing equipment, plant physical layouts and cleaning and sanitation programs.

STRESS: This course covers food processing and engineering principles and fundamentals of the various food preservation techniques.

Learning Objectives:

Upon successful completion of this course, students will be able to demonstrate the Brescia Competencies as follows:

- 1) Recognize and appreciate the modern food technology used in food processing and food preservation. (Critical Thinking, Inquiry and Analysis, Problem Solving, Level 3)
- 2) Understand the principles of food processing and engineering as applied in various industrial processes used in food preservation such as refrigeration, freezing, drying, concentration, irradiation,

heat treatment and other food processing technology. (Critical Thinking, Inquiry and Analysis, Problem Solving, Level 3)

- 3) Understand the effects of these unit operation processes on the integrity and quality of the food materials. (Critical Thinking, Inquiry and Analysis, Level 3)
- 4) Develop critical thinking, oral and written communication skills. (Critical Thinking, Interpersonal Communication, Level 3)

TEXTS

(in Brescia Library)

1. Grandison, B. Food Processing Handbook, 2012, Volume 1 & 2.
2. Clark, P. Case Studies in Food Engineering, 2009, Learning from Experience.
3. Satin, M. Food Irradiation: A Guide book, 2006, 2nd ed.
4. Barbosa-Canovas, G. V. Food Preservation by Moisture Control, 1995.
5. Sun, D. Emerging Technologies for Food Processing, 2005.
6. Karmas, E. and Harris, R.S. Nutritional Evaluation of Food Processing. 2008, 2nd ed. Westport, Conn. AVI Publishing Co. Inc.
7. Haghi, A. K. Advances in Food Science and Technology (2012).
8. Whitaker, J. R. Principles of Enzymology for Food Sciences, 1994.

Outline of Topics:

1. Post-harvest handling and preparation of foods for processing
2. Thermal processing and associated engineering concepts
3. Evaporation and dehydration
4. Refrigeration and freezing
5. Irradiation

6. High pressure processing
7. Emerging technologies for food processing
8. Packaging
9. Membrane separations in food processing
10. Safety in food processing
11. Environmental aspects of food processing
12. Nanotechnology in the food sector
13. Fermentation and the use of enzymes

ASSIGNMENTS: Class projects and reports will be discussed with the professor at the beginning of the semester.

MARKING:	Presentations	45% (Marks for 1st presentation will be released on Feb.6, 2019)
	Participation	15%
	Written Reports	40%
	Total	100%

Specific Course Policies:

- 1) Assignments are due at time and date noted. **The mark will be reduced by 20%** on assignments submitted within seven (7) days of the due time unless academic accommodation has been requested. Assignments submitted after seven days will **not** be accepted for marking unless academic accommodation has been requested.
- 2) For mark components of 10% or higher, any student who misses these requirements can request accommodation from the academic counsellors on medical or non-medical grounds with proper documentation submitted. The academic counsellors will then make the request for accommodation to the faculty as necessary.

2018-19 BRESCIA UNIVERSITY COLLEGE ACADEMIC POLICIES AND REGULATIONS

1. POLICY REGARDING MAKEUP EXAMS AND EXTENSIONS OF DEADLINES

When a student requests academic accommodation (e.g., extension of a deadline, a makeup exam) for work representing 10% or more of the student's overall grade in the course, it is the responsibility of the student to provide acceptable documentation to support a medical or compassionate claim. All such requests for academic accommodation must be made through an Academic Advisor and include supporting documentation.

Academic accommodation for illness will be granted only if the documentation indicates that the onset, duration and severity of the illness are such that the student could not reasonably be expected to complete her academic responsibilities. Minor ailments typically treated by over-the-counter medications will not normally be accommodated.

Students must submit their documentation along with a request for relief specifying the nature of the accommodation being requested no later than two business days after the date specified for resuming responsibilities. In cases where there might be an extended absence or serious issue, students should submit their documentation promptly and consult their Academic Advisor for advice during their recovery period. Whenever possible, students who require academic accommodation should provide notification and documentation in advance of due dates, examinations, etc. Appropriate academic accommodation will be determined by the Dean's Office/Academic Advisor in consultation with the student's instructor(s). Academic accommodation may include extension of deadlines, waiver of attendance requirements for classes/labs/tutorials, arranging Special Exams or Incompletes, re-weighting course requirements, or granting late withdrawals without academic penalty

Please note that personal commitments (e.g., vacation flight bookings, work schedule) which conflict with a scheduled test, exam or course requirement are not grounds for academic accommodation.

A UWO Student Medical Certificate (SMC) is required if a student is seeking academic accommodation on medical grounds. This documentation should be obtained at the time of the initial consultation with the physician/nurse practitioner or walk-in clinic. A SMC can be downloaded from: http://www.uwo.ca/univsec/pdf/academic_policies/appeals/medicalform.pdf . The student must request documentation sufficient to demonstrate that her ability to meet academic responsibilities was seriously affected. Please note that under University Senate regulations documentation stating simply that the student "was seen for a medical reason" or "was ill" is not adequate to support a request for academic accommodation.

The full policy on requesting accommodation due to illness can be viewed at:
http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_12

2. ACADEMIC CONCERNS

If you feel that you have a medical or personal challenge that is interfering with your work, contact your instructor and Academic Advisor as soon as possible. Problems may then be documented and possible arrangements to assist you can be discussed at the time of occurrence rather than on a retroactive basis. Retroactive requests for academic accommodation on medical or compassionate grounds are not normally considered.

If you think that you are too far behind to catch up or that your work load is not manageable, you should consult your Academic Advisor. If you consider reducing your workload by dropping one or more courses, this must be done by the appropriate deadlines (refer to the Registrar's website, <http://brescia.uwo.ca/academics/registrar-services/> or the list of official sessional dates in the Academic Calendar, see the Sessional Dates tab at <http://www.westerncalendar.uwo.ca/index.cfm?SelectedCalendar=Live&ArchiveID=>). You should consult with the course instructor and the Academic Advisor who can help you consider alternatives to dropping one or more courses. Note that dropping a course may affect OSAP eligibility and/or Entrance Scholarship eligibility.

3. ABSENCES

Short Absences: If you miss a class due to a minor illness or other problems, check your course outline for information regarding attendance requirements and make sure you are not missing a test or assignment.

Cover any readings and arrange to borrow notes from a classmate. Contact the course instructor if you have any questions.

Extended Absences: If you have an extended absence, you should contact the course instructor and an Academic Advisor. Your course instructor and Academic Advisor can discuss ways for you to catch up on missed work and arrange academic accommodations, if appropriate and warranted.

It is important to note that the Academic Dean may refuse permission to write the final examination in a course if the student has failed to maintain satisfactory academic standing throughout the year or for too frequent absence from the class or laboratory (http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=5&SelectedCalendar=Live&ArchiveID=#SubHeading_68).

4. SCHOLASTIC OFFENCES

Scholastic offences are taken seriously and students are directed to read the appropriate policy, specifically, the definition of what constitutes a Scholastic Offence, at: http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_20 .

Students are responsible for understanding the nature of and avoiding the occurrence of plagiarism and other academic offences. Note that such offences include plagiarism, cheating on an examination, submitting false or fraudulent assignments or credentials, impersonating a candidate, or submitting for credit in any course without the knowledge and approval of the instructor to whom it is submitted, any academic work for which credit has previously been obtained or is being sought in another course in the University or elsewhere. Students are advised to consult the section on Scholastic Discipline for Undergraduate Students in the Academic Calendar.

If you are in doubt about whether what you are doing is inappropriate or not, consult your instructor, the Academic Dean's Office, or the Registrar. A claim that "you didn't know it was wrong" is not accepted as an excuse.

The penalties for a student guilty of a scholastic offence (including plagiarism) include refusal of a passing grade in the assignment, refusal of a passing grade in the course, suspension from the University, and expulsion from the University.

Plagiarism:

Students must write their essays and assignments in their own words. Whenever students take an idea or a passage from another author, they must acknowledge their debt both by using quotation marks where appropriate and by proper referencing such as footnotes or citations. Plagiarism is a major academic offence.

All required papers may be subject to submission for textual similarity review to the commercial plagiarism detection software under license to the University for the detection of plagiarism. All papers submitted for such checking will be included as source documents in the reference database for the purpose of detecting plagiarism of papers subsequently submitted to the system. Use of the service is subject to the licensing agreement, currently between The University of Western Ontario and Turnitin.com (<http://www.turnitin.com>).

Computer-marked Tests/exams:

Computer-marked multiple-choice tests and/or exams may be subject to submission for similarity review by software that will check for unusual coincidences in answer patterns that may indicate cheating. Software currently in use to score computer-marked multiple-choice tests and exams performs a similarity review as part of standard exam analysis.

5. PROCEDURES FOR APPEALING ACADEMIC EVALUATIONS

All appeals of a grade must be directed first to the course instructor. If the student is not satisfied with the decision of the course instructor, a written appeal is to be sent to the School Chair. If the response of the Chair is considered unsatisfactory to the student, she may then submit a written appeal to the Office of the Dean. If the student is not satisfied with the decision of the Dean, she may appeal to the Senate Review Board Academic (SRBA), if there are sufficient grounds for

the appeal. For information on academic appeals you can consult your Academic Advisor or see the Student Academic Appeals – Undergraduate in the

Academic Calendar

http://www.westerncalendar.uwo.ca/PolicyPages.cfm?Command=showCategory&PolicyCategoryID=1&SelectedCalendar=Live&ArchiveID=#Page_14.

Note that final course marks are not official until the Academic Dean has reviewed and signed the final grade report for the course. If course marks deviate from acceptable and appropriate standards, the Academic Dean may require grades to be adjusted to align them with accepted grading practices.

6. PREREQUISITES

Unless you have either the prerequisites for a course or written special permission from the Dean to enroll in it, you will be removed from the course and it will be deleted from your record. This decision may not be appealed. You will receive no adjustment to your fees in the event that you are dropped from a course for failing to have the necessary prerequisite(s).

7. SUPPORT

Support Services

The Brescia University College Registrar's website, with a link to Academic Advisors, is at <http://brescia.uwo.ca/academics/registrar-services/> . The website for the Student Development Centre at Western is <http://www.sdc.uwo.ca/> .

Mental Health and Wellness

Students may experience a range of issues that can cause barriers to your learning, such as increased anxiety, feeling overwhelmed, feeling down or lost, difficulty concentrating and/or lack of motivation. Services are available to assist you with addressing these and other concerns you may be experiencing. You can learn more about mental health and wellness at Brescia at <http://brescia.uwo.ca/life/mental-health-wellness/>. Students who are in emotional/mental distress should refer to Health and Wellness at Western, http://uwo.ca/health/mental_wellbeing/index.html, for information about how to obtain help for yourself or others.

Sexual Violence

All members of the Brescia University College community have a right to work and study in an environment that is free from any form of sexual violence. Brescia University College recognizes that the prevention of, and response to, Sexual Violence is of particular importance in the university environment. Sexual Violence is strictly prohibited and unacceptable and will not be tolerated. Brescia is committed to preventing Sexual Violence and creating a safe space for anyone in the Brescia community who has experienced Sexual Violence.

If you or someone you know has experienced any form of Sexual Violence, you may access resources at <http://brescia.uwo.ca/life/sexual-violence/>.

Portions of this document were taken from the Academic Calendar, the Handbook of Academic and Scholarship Policy and the Academic Handbook of Senate Regulations. This document is a summary of relevant regulations and does not supersede the academic policies and regulations of the Senate of the University of Western Ontario.