



Instructor

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**Lab Technician /
Teaching Assistant**

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Course Prerequisite: One of: **Grade 12 (4U) Chemistry**, Gr. 13 (OAC) Chemistry,
CHEM*1000, CHEM*1040, CHEM*1060 or **CHEM*1100**.

Course Description:

Scientific principles and their application to food preparation and food consumption. An integrated lecture and laboratory approach is used to study the chemical and physical properties of foods.

Course Objectives:

1. Understand and explain the chemical and/or physical changes that take place in food components under various conditions (e.g. the effects water, pH, enzymes, temperature have on food components).
2. Understand and explain how the physical and chemical properties of foods affect their preparation and use.
3. Describe the key elements in food safety including food spoilage and food preservation methods.
4. Demonstrate knowledge of food preparation and processing methods and the application of these methods to specific foods.
5. Demonstrate knowledge and understanding of basic food science literature and develop critical thinking and problem solving skills as well as the ability to apply a working knowledge in real life situations.

In particular, **Applied Human Nutrition (AHN)** students will develop an appreciation of the importance of appropriate food preparation methods in order to maintain the nutritional quality of foods. An understanding of the physical and chemical properties of foods will be important to AHN students planning to apply for a Dietetic Internship when they take Restaurant Operations Management (HTM*3090) in their third year.

An understanding of the physical and chemical properties of foods in food preparation will be important to **H.A.F.A.** students when they take Restaurant Operations Management (HTM*3090) in their third year.

Last Day to Drop the Course: Friday, March 7th, 2014.

Please notify the instructor (Valerie Allen) if you plan to drop this course so that the number of students in lab sections is accurate for supply ordering purposes.

Safe Walk: The midterms in this course are in the evening. Please do **not** walk home alone. If you live on campus call **Safe Walk at Ext. 53200**.

Course Structure:

The course consists of three 50-minute lectures **and** a 2 hour lab each week:

Lectures: Monday, Wednesday **and** Friday
 9:30 - 10:20 am
 Landscape Architecture (LA) 204

Labs:

SEC 0101	Tuesday	10:30 am - 12:20 pm	Macdonald Institute (MINS) 214
SEC 0102	Tuesday	1:30 - 3:20 pm	Macdonald Institute (MINS) 214
SEC 0103	Wednesday	1:30 - 3:20 pm	Macdonald Institute (MINS) 214
SEC 0104	Thursday	1:30 - 3:20 pm	Macdonald Institute (MINS) 214

Notes: Students MAY ONLY ATTEND the laboratory class to which they are assigned at all times throughout the semester.
 If you must miss a lab due to illness contact Professor Allen or the Course Lab Technician, Alison Crerar, prior to the lab.

The Monday and Wednesday lectures will be mainly theoretical in nature, providing basic theory which will then be applied in the laboratory. The Friday lecture will integrate the theory with the practical applications observed in the lab. Students can expect to spend a **minimum of 6-8 hours per week on the course outside of the lectures and lab**. This time will be needed to prepare for the lab (reading the Laboratory Background Information), reviewing lecture material, completing the Lab Reports and studying for exams.

Required Textbook, Course Pack and Lab Reports:

Allen, V., Introductory Foods Course Pack: University of Guelph, **REVISED July 2013**

Allen, V. Introductory Foods Laboratory Reports - **Winter 2014**, University of Guelph.

Dykeman, J. A. (Editor), Advanced fst - Food Safety Training in Canada - **2nd Edition (BLUE Cover)**, TrainCan Inc., 2008.

- ***This Advanced FST: Food Safety Training in Canada textbook will be used in HTM*3090 by both HAFA students and by AHN students planning to apply for a Dietetic Internship. It is VERY IMPORTANT that you keep the book and NOT remove the exam score sheet in the front of the book. You will be taking the certification exam as part of HTM*3090.***
- It is recommended that you place your name on the answer sheet immediately to prevent someone from taking and using the sheet as their own.

School of Hospitality and Tourism Management Food Laboratory Policy

This policy:

- 1) sets professional standards for our students when involved in food preparation activities,
- 2) insures consistent food laboratory procedures for all foods courses taught within the School of Hospitality and Tourism Management and
- 3) insures the School is teaching to the highest standard of food safety.
- 4) complies with the recommendations in the Canadian Restaurant and Foodservices Association Sanitation Code and with local health regulations.

The following mandatory procedures apply to:

- 1) students enrolled in **Introductory Foods (HTM*2700)**, Cultural Aspects of Food (HTM*2740), Restaurant Operations Management (HTM*3090) and Advanced Restaurant Operations (HTM*4110) courses in the School of Hospitality and Tourism Management and
- 2) those involved in student sponsored activities which use HTM food laboratory facilities.

Food Production Uniform

- A white chef jacket OR lab coat - clean, pressed and buttoned.
- Hair net OR chef cap - covering all hair. Hair must be kept under control at all times.
- Full-length pants (shorts and torn jeans are not allowed).
- Beard net where deemed necessary by the course instructor.
- Flat, closed toe and heel shoes made of non-absorbent material with non-skid soles (clogs, canvas sneakers and open-toed or heeled shoes are not allowed).
- **No jewelry of any type** - this includes all facial jewelry (earrings, nose rings, lip rings, eyebrow rings etc.), necklaces, watches and bracelets of any kind, except Medic Alert bracelets.
- Short to moderate length unpolished fingernails and no false fingernails.

Note: If you appear without the proper uniform you may rent a lab coat for \$3.00 (per time) or purchase a hair net for \$1.00.

Supervision of Students in Food Production Laboratories

Safety in the laboratory is a priority at all times. In order to ensure the safety of all participants, the safety procedures provided by the instructor must be followed. It is the responsibility of each student to attend any safety orientation that is provided. Students who explicitly refuse to follow lab safety policy will be required to leave the lab and the School's Director will be informed of the incident.

Students in food production laboratories must be supervised by an instructor, lab technician or graduate teaching assistant at all times. There is a real concern about the safety and well being of students left in a lab unsupervised. The School is directly responsible for these students and their activities as they relate to the courses.

Students' access to food storage areas (refrigerators, freezers or dry storage) outside of class time, without supervision is prohibited, i.e. keys may not be given to students to work on weekends or in the evening.

All applicable health, food safety and liquor regulations will be adhered to while in the HTM food laboratory facilities.

Schedule of Classes

<u>DATE</u> <u>(Week of)</u>	<u>LECTURE</u> <u>TOPICS</u>	<u>LAB</u> <u>EXERCISE</u>	<u>BACKGROUND</u> <u>INFORMATION & QUIZ</u>
January 6 - 10	Introduction to course Foodborne illness and food safety HAACP system Dispersion systems and emulsions Osmosis and turgor pressure Types of salads and parts of salads	Introduction & Salads	---
January 13 - 17	Fruit - structure - effect of cooking Oxidative enzymatic browning Diffusion vs. Osmosis	Fruit	Fruit
January 20 - 24	Vegetables - flavour types - effect of cooking Plant pigments	Vegetables	Vegetables
January 27 - 31	Causes of food spoilage Growth requirements of microorganisms Canning Freezing Jams, jellies and pickles	Preservation	Preservation
February 3 - 7	<p>NO LABS this Week. Monday, Wednesday and Friday lectures as scheduled.</p>		
	<p><i>PRESERVATION LAB REPORT DUE in lecture on Wednesday, February 5th.</i></p> <p>Colloidal dispersions - stabilizing factors - sol and gel states</p> <p>Starch - sources and types - gelatinization</p>		
February 10 -14	<p>MIDTERM 1 EXAM - Wednesday, February 12th in the evening from 5:30 to 7:00 p.m. in Richards Bldg. (RICH) 2520</p>		
	<p><i>All lectures and labs as normally scheduled.</i></p>		
	Starch - retrogradation - syneresis - factors affecting sols and gels - white sauce vs. brown sauce - preventing lumping in starch mixtures	Starch	Starch
	Proteins - types and structure - denaturation and coagulation		

<u>DATE</u> <u>WEEK of</u>	<u>LECTURE</u> <u>TOPICS</u>	<u>LABORATORY</u> <u>EXERCISE</u>	<u>BACKGROUND</u> <u>INFORMATION & QUIZ</u>
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February 17th to 21st WINTER BREAK - No lectures or labs scheduled this week

February 24 - 28	Eggs - composition and structure - functional properties - factors affecting coagulation of egg proteins - factors affecting egg white foams	Eggs	Eggs
March 3 - 7	Milk - whey and casein proteins and causes of denaturation - whipping cream foam Cheese-making process Melting and blending properties of cheese Cooking with cheese	Milk & Cheese	Milk & Cheese
March 10 -14	Meat 1 - composition & muscle structure - beef wholesale and retail cuts - poultry and fish - dry heat cooking methods	Meat 1 (tender cuts)	Meat 1

March 17 - 21

**MIDTERM 2 EXAM - Wednesday, March 19th
in the evening from 5:30 to 7:00 p.m. in Richards Bldg. (RICH) 2520**

All lectures and labs as normally scheduled.

	Meat 2 - methods to increase tenderness - moist heat cooking methods - fresh and cured meat colour reactions	Meat 2 (less tender cuts)	Meat 2
March 24 - 28	Structure of cereal grains Gluten formation Leavening gases Mixing of muffins Flake formation in tea biscuits Browning reactions	Muffins & Tea Biscuits	Muffins & Tea Biscuits
March 31 to April 4	Sugar - types and functions Cakes - function of ingredients - mixing methods - surface colour	Cakes (Cake quiz, but no lab report)	Cakes

April 9th FINAL EXAM - Wednesday, April 9, 2014 11:30 am - 1:30 pm

Course Evaluation

Your final grade in the course will be determined as follows:

Laboratory Reports	7 reports	20%
Laboratory Quizzes	10 quizzes	10%
Midterm 1	Wednesday, February 12th, 5:30 to 7:00 pm	20%
Midterm 2	Wednesday, March 19 th , 5:30 to 7:00 pm	20%
Final Examination	Wednesday, April 9 th , 11:30 am to 1:30 pm	30%

NOTE: *Students must obtain an overall cumulative pass in the 3 examinations in order to pass the course (i.e. Midterm 1 + Midterm 2 + Final Exam = 35 / 70 or higher). If a student does NOT cumulatively pass the three exams then their final grade in the course will be calculated as the marks earned on the 3 exams expressed as a percentage.*

Laboratory Reports (20% of final grade)

- Students can either purchase a set of **Laboratory Report Sheets - Winter 2014** from the University Bookstore in the MacNaughton Building OR download the Lab Report Sheets from the HTM*2700 CourseLink website (<https://courselink.uoguelph.ca/shared/login/login.html>).
- Students are responsible for handing-in their lab reports, to their lab instructor at the beginning of the lab the week that the report is due (e.g. Salads and Fruit Lab Report is to be handed-in at the beginning of the Vegetable Lab). A total of 7 lab reports will be submitted.
- Lab Reports can be answered in the spaces provided (blue or black ink) or they can be done on the computer.
- **Lab reports done on the computer must:**
 - include the questions and marking scheme with the answers
 - use minimum font size of 12 point
 - be stapled in the top left corner. Covers are not necessary.
- **Late Reports** - Students who find themselves unable to hand-in a lab report on time due to medical, psychological or compassionate circumstances beyond their control should discuss their situation with Professor Allen and make arrangements regarding a new due date. Lab Reports handed-in late for other reasons will be penalized 10% per day and will only be accepted up until the Friday of the week they are due.
- **Individual assignments** -You can work together in gathering information for your lab report, and you can discuss general points and the outline of your report with others. However, in writing your lab report you **MUST** work **INDEPENDENTLY**. **Lab reports are individual assignments and must be completed independently.** No two reports should look like they came from the same computer file, with a word or two changed to keep them from being identical. IF you write independently, and put your report into your own words you don't have to worry about it looking like someone else's. **DO NOT** share your lab reports with anyone else in the class. **Plagiarizing another student's answers constitutes academic misconduct.** Plagiarism includes the act of copying or paraphrasing significant portions of someone else's material and representing it as one's own. Suspected cases of plagiarism will be reported to the Associate Dean - Academic of the College (See p. 8).

Course Evaluation Cont'd

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| • Lab Report | <u>DUE at the beginning of your lab the week of:</u> |
| Salads and Fruit Report | January 20 - 24 |
| Fruit and Vegetable Report | January 27 - 31 |
| Preservation Report | <i>In lecture on Wednesday, February 5th</i> |
| Starch and Egg Report | March 3 - 7 |
| Egg, Milk and Cheese Report | March 10 -14 |
| Meat Report | March 24 - 2 |
| Muffins and Tea Biscuits Report | March 31 - April 4 |

Laboratory Quizzes (10% of final grade)

- Lab quizzes are done on-line through the HTM*2700 CourseLink website: <https://courselink.uoguelph.ca/shared/login/login.html> .
- Information that will be tested on the quizzes is found in the “*Background Information*” sections of the Course Package and any associated readings for that lab (e.g. Fruit quiz will be on “*Fruit Background Information*” and readings).
- Each quiz will consist of 10 questions and you will have 15 minutes to complete the quiz. Each quiz can only be taken once.
- **48 Hour Window to Complete Quiz** - The day of your scheduled lab determines when you can take your quiz. You have a **48 hour window** during which you can write the quiz. The window includes the 24 hours prior to your scheduled lab day and the 24 hours of your lab day. For example, if your scheduled lab is on Monday you will have access to your quiz from Sunday morning 12:01 am until Monday at 11:59 pm. Once your quiz is completed you will be given your mark.
- The answers to the questions which you got wrong will **not** be available until Friday, after all students in the class have taken the quiz. **Do NOT contact Alison before Friday to find out the answers.**
- There are a total of 10 quizzes. The **first quiz** is the Fruit Quiz during the **week of January 13th**.
- **Failure to write a quiz during your specified window will result in a grade of zero (0).**
- **Missed Quizzes** - If you miss taking your quiz and have a legitimate medical, psychological or compassionate reason contact the course Lab Technician, Alison Crerar (acrerar@uoguelph.ca) **immediately**. If you do not contact her a grade of zero ('0') will be assigned to the missed lab quiz.
- **Lab Attendance and Quiz Marks** - **In order to your count quiz marks towards your final grade in the course, you must attend a minimum of 9 of the 11 labs during the semester.** If you fail to attend at least 9 labs then you will forfeit this 10% component of the course. If you must miss a lab due to illness etc. contact Professor Allen or the Course Lab Technician, Alison Crerar, **before lab** or **immediately** afterwards. Failure to contact Alison or Prof. Allen about missing your lab will be recorded as an absence.

Midterm 1 (20% of final grade)

- **Wednesday, February 12, 2014 from 5:30 to 7:00 pm in Richards Building (RICH) 2520.**
- will test any material covered up to the end of PRESERVATION (January 6th to January 31st inclusive). It will also include Chapters 1, 2 and 3 in Advanced FST - Food Safety Training in Canada.

Midterm 2 (20% of final grade)

- **Wednesday, March 19, 2014 from 5:30 to 7:00 pm in Richards Building (RICH) 2520.**
- The second midterm will test all material covered on STARCH, EGGS and MILK & CHEESE (February 3rd to March 7th inclusive).

Final Examination (30% of final grade)

- **Wednesday, April 9, 2014 from 11:30 am to 1:30 pm** in a location to be determined by the Office of Registrarial Services.
- The final exam is cumulative and therefore includes all material studied in the course. However, the final exam emphasizes material covered after Midterm 2 (Meats, Muffins & Tea Biscuits and Cakes).

NOTES:

- 1) Both midterms and the final exam will be a combination of multiple-choice and short answer questions.
- 2) Any student not writing an exam at the pre-arranged time will receive a grade of zero unless they have a valid medical certificate or have made prior arrangements with Professor Allen.
- 3) Students are responsible for ensuring that they do not have a time conflict with final exams in other courses. The Final Exam Schedule is available through WebAdvisor for Students. In the event of a conflict the student must drop one of the courses.
- 4) **Religious Holidays** - Should you need to miss a lab or examination for religious reasons, please advise the instructor at the beginning of the semester so that alternate arrangements can be made.

Academic Misconduct:

The University of Guelph is committed to upholding the highest standards of academic integrity and directs all members of the University community - faculty, staff and students - to be aware of what constitutes academic misconduct and to do as much as possible to prevent academic offences from occurring. The University of Guelph takes a serious view of academic misconduct and it is your responsibility as a student to be aware of and to abide by the University's policy. Included in the definition of academic misconduct are such activities as cheating on examinations, plagiarism, misrepresentation, and submitting the same material in two different courses without written permission.

To better understand your responsibilities, read the Undergraduate Calendar at:

http://www.uoguelph.ca/undergrad_calendar/c08/c08-amisconduct.shtml Discuss any questions you may have with your course instructor, teaching assistant, Academic Advisor or Academic Counsellor.

You are also advised to make use of the resources available through the Learning Commons 'Academic Integrity' website at: <http://www.webapps.ccs.uoguelph.ca/lc/AcademicIntegrity/>. This website includes:

- ✓ Definitions of Academic Integrity and Plagiarism
- ✓ A Video vignette depicting an issue of academic misconduct involving U of G students
- ✓ Rules, Regulations, and Penalties for Academic Misconduct at the University of Guelph
- ✓ Illustrations of how to avoid unintentional academic misconduct and plagiarism
- ✓ Short quizzes and exercises to test your understanding of the rules governing academic work

Students should be aware that faculty have the right to use software to aid in the detection of plagiarism or copying and to examine students orally on submitted work. For students found guilty of academic misconduct, serious penalties, up to and including suspension or expulsion from the University can be imposed.

Students who find themselves unable to meet course requirements by the deadline or criteria expected because of medical, psychological or compassionate circumstances beyond their control, should review the regulations on Academic Consideration in the Undergraduate Calendar

(http://www.uoguelph.ca/undergrad_calendar/08-ac.shtml) and discuss their situation with the instructor, Program Counsellor or Academic Advisor as appropriate.