

# FOOD 2001 PRINCIPLES OF NUTRITION (Fall 2025)

**Course Instructor:** Apollo Tsopmo

**Gender Pronouns:** (He/Him)

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**Best Ways to be in Touch:** in class, via email, or during student hours

**Student Hours:** By Appointment at room SC207D

**Office Location:** Room 207D Steacie Building

**Class Location:** Please check Carleton Central for the room location.

**Class Times:** Tues & Thu, 11:30 am – 1:00 pm

**Prerequisites:** CHEM 1002, BIOL 1103.

**Preclusions:** N/A

**Department/Unit:** Chemistry

**Description:** This course addresses the relationship between nutrition and health. The focus is on healthy eating and strategies for modifying food patterns within the context of lifestyle and health states.

**Format:**

Lecture: 3 hours per week (2 x 1.5 h), **Tuesdays and Thursdays 11:30 - 1:00 pm**

Essential points for notes will be on slides (PowerPoint) used during classes. Other information will come from text, tables, and figures in the textbook, and from handouts and links provided by the instructor.

Lectures, assignments, and tests will prepare students to meet the required learning outcomes and, thus, to achieve a passing grade in this course.

**Students' responsibility:**

You are expected to attend classes, do any required reading, complete homework and tests. You are responsible for being familiar with all dates and deadlines listed in this course outline and posted on Brightspace.

You are encouraged to ask questions during lectures. The instructor will be available after classes to answer questions.

Before each class, we will review the previous class material.

**Pre-requisites**

CHEM 1002 (General Chemistry II), BIOL 1103 (Foundations of Biology I). This course is an introduction and an overview to nutrition, with an emphasis on “nutrition for health”. The knowledge of chemistry and biology is essential.

# Topics Covered and Learning Outcomes

## Topics to be covered:

Week	Topic/Content	Readings/Prep for Class
1	Nutrition and Health Promotion: Definitions of nutrition, health, and nutrients, Characteristics of healthy diets, Influence of lifestyle, culture, etc. on food choices, Types of nutrition research studies providing scientific evidence, Differentiation of nutritionists versus dietitians	Chapter
2	Evaluating the Nutritional Adequacy of a Diet: Methods for analysis of food intake, Nutrition Recommendations for Canadians, Dietary Reference Intakes, Interpretation of food intake, Eating Well with Canada's Food Guide, Food labels and nutrition information	Chapter 2
3	Utilization of Nutrients by the Body: General metabolism, Digestion, Absorption, transport, metabolism, storage and excretion of nutrients, Diseases of the digestive tract	Chapter 3
4	Carbohydrates: Types, food sources, functions and requirements; Roles in health and disease, Artificial sweeteners, Lactose intolerance, Diabetes	Chapter 5
5	Lipids: Types, food sources, functions and requirements, Fat replacers, Role of dietary fat in the development of cardiovascular disease	Chapter 6
6	Proteins: Types, food sources, functions and requirements, Protein quality, Disorders related to inadequate protein intake	Chapter 7
7	Nutrients Involved in Fluid and Electrolyte Balance: Body needs of water, Nutrients that function as electrolytes in our bodies, How electrolytes assist in the regulation of fluid balance, Hypertension: lifestyle changes to reduce hypertension	Chapter 8
8	Nutrients that Function as Antioxidants: Vitamins, minerals, and other compounds that stabilize free radicals independently or function within complex antioxidant enzyme systems, Toxicity of phytochemicals or antioxidant vitamins, Relationship between antioxidant nutrients and cancer, Antioxidants that can reduce our risk for cardiovascular disease	Chapters 9 & 10
9	Nutrients Involved in Energy Metabolism: Vitamins and minerals that help generate energy from foods, Role of vitamin K, iron, zinc, and copper in blood health, Components of blood, Association among folate, vitamin B12, and vascular disease	Chapter 9
10	Nutrients Involved in Bone Health: Cortical bone and trabecular bone, Processes of bone growth, modelling and remodelling, Vitamins and minerals in maintaining bone health and their food sources, Osteoporosis: impacts on a person's health, factors that influence our risk	Chapter 10
11	Energy Balance and Healthy Body Weight: What is a healthy weight? Methods for assessing body composition, Components of energy expenditure, Genetic influence of weight control, Diets for weight loss or weight gain, Eating disorders	Chapter 4

12	Nutrition and Physical Activity: Concepts of physical activity, Components of fitness, Benefits of being physically active, Sport drinks, food supplements, and ergogenic aids	Chapter 11
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Important dates and deadlines can be found here:

<https://carleton.ca/registrar/registration/dates/academic-dates/>, including class suspension for fall, winter breaks, and statutory holidays.

### Learning Outcomes:

1. Explain the role of nutrients, describe methods to assess diets and strategies to find reliable nutritional information
  - a) List, classify, and provide the function of nutrients in foods
  - b) Calculate food energy based on macronutrient compositions
  - c) Assess diets using established methods: diet records, food guides, dietary reference intakes, nutrition fact table
  - d) Assess nutritional information from TV, internet or newspapers
2. Describe cell needs and basic metabolism
  - a) Cellular organization of the human body and general metabolism of macronutrients
  - b) Describe the role of hormones and vitamins in the metabolism of foods
  - c) Describe the contribution of each organ of the gastrointestinal system to digestion, absorption, transport, and elimination of foods
  - d) Discuss the relationship between foods and conditions such as gastroesophageal reflux, ulcer, diarrhea, etc.
3. Explain the role of nutrients in promoting and preventing chronic diseases
  - a) Identify nutrients that function as electrolytes and describe how they assist in the regulation of a healthy fluid balance
  - b) Discuss the role of certain vitamins and non-nutrients in protecting cells from oxidative damage and their involvement in cardiovascular diseases or cancer
  - c) Identify nutrients involved in bone and blood health
4. Describe how nutrition can be used to achieve a healthy body weight
  - a) Define and understand what constitutes a healthy body weight, list methods to assess body composition
  - b) Identify and discuss components of energy expenditure
  - c) Define physical activity and the components of fitness
  - d) Describe how nutrients are used during physical activity
  - e) Discuss the effects, if any, of a high-protein diet or supplement on activity performance

### Assessments:

Course content will be tested through assignments mid-term and final exams. Final grades will be assigned as follows: A+ ≥ 90%, A ≥ 85%, A- ≥ 80% B+ ≥ 77% B ≥ 73%, B- ≥ 70% C+ ≥ 67% C ≥ 63%, C- ≥ 60, D+ ≥ 57%, D ≥ 53, D- ≥ 50%, and F < 50%.

COMPONENT	GRADE VALUE
<b>ASSIGNMENT A</b>	10%
<b>ASSIGNMENT B</b>	20%
<b>MIDTERM</b>	30%
<b>FINAL EXAM</b>	40%

**Assignment A: Role of nutrition in health:** The assignment will be related to the role of nutrition in health and the use of the Canadian Food Guide for healthy eating. Further details will be given in class.

**Assignments: Role of nutrition in health:** The assignment will be related to the role of nutrition in health and the use of the Canadian Food Guide for healthy eating. Determine nutrients content of foods; Calculate energy or calorie contents of foods, Assess the adequacy of diet; Find good sources of nutritional information; Record and analysis of your own diet; Assess diets (Calculate concentration and energy (calorie) from proteins, carbohydrates fats (total fat, omega-3, trans fat), vitamins/minerals) and suggest appropriate changes to them more nutritious.

### **Mid-term test and final exams**

They will include multiple-choice and short-answer questions focusing on lecture materials, leaning activities, and discussion. Examples of questions will be given in class and on Brightspace. Other examples are found at the end of chapters in the textbook.

## **Late and Missed Work Policies**

**Late assignments:** A penalty of 10% will be applied for the first two days. No submission beyond the two days will be accepted on Brightspace unless it falls under the two categories below

- 1) Missed work less than 5 days (assignments):** Complete a self-declaration using the online [Academic Consideration for Coursework Form](#). If you don't have medical documentation.
- 2) Missed work longer than 5 days:** Submit the [Long Term Academic Consideration Request Form](#).

**Missed Midterm exam:** For approved requests, the instructor will arrange an extension for the assignment or another date for writing the test, in most cases, at the time at which the class is generally held.

## **Learning Materials Related Resources**

Learning Material	Options for Purchasing ( <i>e.g. Bookstore, Used, etc.</i> )	Approximate Cost
<b>1) Highly recommended Textbook:</b> <b>Nutrition: A Functional Approach, 4<sup>th</sup> Canadian Edition</b> by Thompson, Manore, Hartman & Lafave, © Pearson Education Canada ISBN for Ebook-9780137487066	Bookstore, Pearson Education	\$80

**The 3<sup>rd</sup> Canadian Edition is an alternative option. There is no restriction in using a second-hand book**

### **Internet Sites:**

Health Canada, dietitians of Canada, [www.eatright.org](http://www.eatright.org), Canadian Food Inspection Agency [www.heartandstroke.ca](http://www.heartandstroke.ca), [www.diabetes.ca](http://www.diabetes.ca), [www.cancer.ca](http://www.cancer.ca), [www.osteoporosis.ca](http://www.osteoporosis.ca) National Eating Disorder Information Centre, Public Health Agency of Canada,

**PLEASE REFER TO CARLETON UNIVERSITY ACADEMIC REGULATIONS REGARDING ACADEMIC INTEGRITY, EXAMINATION POLICIES, ETC.**

**Plagiarism and Cheating** (quoted from section E.14 of the Academic Regulations of the University) <http://www.carleton.ca/cuuc/regulations/acadregsuniv14.html>

Plagiarism is presenting, whether intentional or not, the ideas, expression of ideas or work of others as one's own. Plagiarism includes reproducing or paraphrasing portions of someone else's published or unpublished material, regardless of the source, and presenting these as one's own without proper citation or reference to the original source.

Cheating in examinations or tests may take the form of copying from another student or bringing unauthorized materials in the exam room (e.g., crib notes, pagers or cell phones). Exam cheating can also include exam impersonation. A student found guilty of contributing to cheating in examinations or term assignments is also subject to serious academic penalty.

When in doubt about any practice, **ask your professor or instructor.**

**Examinations:** Students are required to follow proper examinations procedures. A student who commits a violation of this policy on an examination, test, or take home examination, or obtains or produces an answer or unfair advantage by deceit, fraud, or trickery, or by an act contrary to the rules of the examination are subject to the sanction.

By enrolling in this course, students accept a commitment to academic freedom for all participants, themselves, and the instructor. The study of nutrition may expose you to foods you don't like. You must be willing to examine the relevant texts and be willing to discuss, verbally and in writing.

## **Course Outline (Syllabus) Information on Academic Accommodations**

### **Requests for Academic Accommodation**

You may need special arrangements to meet your academic obligations during the term. For an accommodation request, the processes are as follows:

#### **Pregnancy obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

#### **Religious obligation**

Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. For more details, visit the Equity Services website: [carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf](http://carleton.ca/equity/wp-content/uploads/Student-Guide-to-Academic-Accommodation.pdf)

### **Academic Accommodations for Students with Disabilities**

If you have a documented disability requiring academic accommodations in this course, please contact the Paul Menton Centre for Students with Disabilities (PMC) at 613-520-6608 or

[pmc@carleton.ca](mailto:pmc@carleton.ca) for a formal evaluation or contact your PMC coordinator to send your instructor your Letter of Accommodation at the beginning of the term. You must also contact the PMC no later than two weeks before the first in-class scheduled test or exam requiring accommodation (if applicable). After requesting accommodation from PMC, meet with your instructor as soon as possible to ensure accommodation arrangements are made. [carleton.ca/pmc](http://carleton.ca/pmc)

### **Survivors of Sexual Violence**

As a community, Carleton University is committed to maintaining a positive learning, working and living environment where sexual violence will not be tolerated, and its survivors are supported through academic accommodations as per Carleton's Sexual Violence Policy. For more information about the services available at the university and to obtain information about sexual violence and/or support, visit: [carleton.ca/sexual-violence-support](http://carleton.ca/sexual-violence-support)

### **Accommodation for Student Activities**

Carleton University recognizes the substantial benefits, both to the individual student and for the university, that result from a student participating in activities beyond the classroom experience. Reasonable accommodation must be provided to students who compete or perform at the national or international level. Please contact your instructor with any requests for academic accommodation during the first two weeks of class, or as soon as possible after the need for accommodation is known to exist. <https://carleton.ca/senate/wp-content/uploads/Accommodation-for-Student-Activities-1.pdf>

For more information on academic accommodation, please contact the departmental administrator or visit: [students.carleton.ca/course-outline](http://students.carleton.ca/course-outline)