

## NUT 1304 – Introduction to Nutrition: Fall 2019

Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<b>Get started</b>  Week of September 2	<p>By the end of this module, you will be able to:</p> <ol style="list-style-type: none"> <li>1. Get to know your professor and those with whom you will be exchanging ideas in the coming months.</li> <li>2. Find the key information for this course (deadlines, evaluation procedures, course plan and progress, learning objectives, regulations, best way to communicate with the professor, etc.).</li> <li>3. Plan your semester using a calendar.</li> <li>4. Use all the tools you need in this course: assignments, discussion forums and exams.</li> <li>5. Browse the site.</li> <li>6. Customize your profile, modify notification settings and manage your account preferences.</li> </ol>	<p>Web pages:</p> <ul style="list-style-type: none"> <li>• You as an online student</li> <li>• Information about your professor</li> <li>• The course and its components</li> <li>• Activity - Personal learning objectives</li> <li>• Activity - Virtual postcard</li> <li>• Activity - Manage your time</li> <li>• Student Services</li> <li>• Activity - Treasure hunt</li> </ul>	<ul style="list-style-type: none"> <li>• Activity - Personal learning objectives (use the tool that enables you to submit an assignment)</li> <li>• Activity - Virtual postcard (participate in an online discussion)</li> <li>• Activity - Manage your time with your favorite calendar</li> <li>• Activity - Treasure hunt (test your knowledge)</li> </ul>	<p>These activities prepares you for this online course.</p>

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<sup>1</sup>These activities provide you with the opportunity to test your knowledge in a context that allows you to make mistakes, identify them and adjust before making an assessment. No points, scores or percentages are associated with it.

<sup>2</sup>The noted evaluations that are aligned with the learning objectives, content, and activities.

Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 1 - Nutrition: Food for Health</p> <p>Week of September 9</p>	<p>General objective:</p> <p>By the end of this module, you will be able to recognize the fundamental principles of nutrition and to critically analyze nutritional information using reliable sources.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Compare the Canadian diet to the current recommendations for a healthy diet.</li> <li>2. Identify the main classes of nutrients according to their chemical structure, their relative amounts in the diet and general functions in the body.</li> <li>3. Recognize the role of nutrition as a determinant of health.</li> <li>4. Give examples of factors which influence food choices (ex. food availability, cultural and family background, social acceptability, personal preference, psychological, emotional, health concerns, and media exposure).</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 1, p. 1-34</li> <li>• Chapter 2, p. 71-82</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• Case study</li> <li>• Introduction-healthy food choices and nutrients</li> <li>• Nutrition and the Canadian diet</li> <li>• Food provides nutrients</li> <li>• Units of measure</li> <li>• Nutrition and health</li> <li>• The role of nutrition in health and prevention of chronic disease</li> <li>• Choosing a healthy diet</li> </ul>		<ul style="list-style-type: none"> <li>• Pre and post-test</li> <li>• Assignment on nutritional assessment</li> <li>• Midterm</li> </ul>

	<p>5. Recognize that nutrition is a relatively new science that is constantly evolving so it is necessary to stay abreast of new research developments.</p> <p>6. Identify strengths and weaknesses of several methods to estimate food intakes (ex. 24-hour recall, food diaries, food frequency questionnaires).</p> <p>7. Identify the main research designs used in nutrition.</p> <p>8. Differentiate between reliable and unreliable sources of nutrition information.</p>	<ul style="list-style-type: none"><li>• Nutrition as a determinant of health</li><li>• Factors that affect food choices</li><li>• Methods of estimating dietary intake and eating behaviors</li><li>• Nutrition research</li><li>• Strengths and weaknesses of various types of research studies</li><li>• Parts of a scientific research article</li><li>• Identifying reliable sources of information</li><li>• Back to the case study</li></ul>		
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 2 - Nutrition Guidelines: Applying the Science of Nutrition</p> <p>Week of September 16</p>	<p>General objective:</p> <p>By the end of this module, you will be able to interpret and apply the nutrition recommendations for Canadians as well as tools such as nutrition labels to promote healthy eating.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Identify approaches that are taken to formulate nutrition recommendations for the Canadian diet.</li> <li>2. Identify the Dietary Reference Intakes (DRIs) most commonly used for macronutrient and micronutrient requirements and how they are determined.</li> <li>3. Identify the DRIs used to calculate energy requirements and the proportion of energy that should come from each of the macronutrients.</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 2, p.35-71</li> <li>• Chapter 8, p.328</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• Case study</li> <li>• Nutrient-based approach to nutrition recommendations</li> <li>• Introduction to Dietary Reference Intakes (DRIs)</li> <li>• Sets of DRI values</li> <li>• Using the DRIs</li> <li>• Fortification in Canada</li> <li>• Dietary pattern approach to nutritional guidelines</li> <li>• Eat Well. Live well with the New Canada's Food Guide</li> </ul>		<ul style="list-style-type: none"> <li>• Pre and post-test</li> <li>• Midterm</li> <li>• Assignment on nutritional assessment</li> </ul>

	<ol style="list-style-type: none"><li>4. Apply the DRIs to determine if an individual's or a population's nutrient intake is adequate.</li><li>5. Identify Canada's Food Guide principal recommendations.</li><li>6. Distinguish between Canada's Food Guide for the general population and other food guides.</li><li>7. Identify the required food label components for all packaged foods in Canada.</li><li>8. Associate the enrichment standards with their pertinent foods.</li><li>9. Identify the types of claims that may appear on Canadian food packages and influence food selection.</li><li>10. Identify important elements to consider when critically analyzing information in order to use reliable sources.</li></ol>	<ul style="list-style-type: none"><li>• CFG and Healthy Food Choices</li><li>• CFG and Healthy Eating Habits</li><li>• CFG and recipes</li><li>• CFG and Tips for Healthy Eating</li><li>• The American Food Guide uses the MyPlate icon</li><li>• Brazil's Food Guide</li><li>• Food labelling</li><li>• Food Labels: Mandatory information</li><li>• The Ingredient List</li><li>• The Nutrition Facts Table</li><li>• % Daily Value (DV)</li><li>• Nutrition Claims</li><li>• Back to the case study</li></ul>		
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 3 - Carbohydrates</p> <p>Weeks of September 23 and September 30</p>	<p>General objective:</p> <p>By the end of this module, you will be able to recognize the classes, roles, and functions of carbohydrates, as well as the related recommendations and links with health and disease.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Identify the origin, the classes, and the chemical and physical characteristics of dietary carbohydrates.</li> <li>2. Identify dietary sources of carbohydrates and their approximate content.</li> <li>3. Name the steps in the process of digestion and absorption of dietary carbohydrates.</li> <li>4. Recognize the steps of carbohydrate metabolism.</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 4, p. 117-170</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• Case study</li> <li>• Chemistry of carbohydrates-dietary sources</li> <li>• Monosaccharides</li> <li>• Disaccharides</li> <li>• Polysaccharides</li> <li>• Intenses Sweeteners</li> <li>• Carbohydrates in the</li> <li>• Carbohydrates in the Digestive Tract</li> <li>• Carbohydrates Digestion</li> </ul>		<ul style="list-style-type: none"> <li>• Post test</li> <li>• Midterm exam</li> <li>• Project on Nutritional assessment ****</li> </ul>

	<p>5. Define the effects of the life cycle stages and lifestyle on the requirements and use of carbohydrates.</p> <p>6. Interpret and apply recommendations related to carbohydrates.</p> <p>7. Describe the role of carbohydrates in the body and in the maintenance of optimal health and the development of chronic diseases.</p> <p>8. Perform a critical analysis of nutrition-related information using reliable sources.</p>	<ul style="list-style-type: none"><li>• Lactose Intolerance</li><li>• The Role of Fibre in the Digestive Tract</li><li>• Carbohydrates in the Body and Blood-Glucose Regulation</li><li>• Using Carbohydrates to Provide Energy</li><li>• The Glycemic Index</li><li>• Blood Glucose Hormonal Regulation</li><li>• Diabetes Mellitus</li><li>• Hypoglycemia</li><li>• Carbohydrates as a Source of Energy</li><li>• Nutritional Recommendations for Carbohydrates</li><li>• Total Carbohydrate Intake Recommendations</li><li>• Added Sugars</li><li>• Dietary Fibre Recommendations</li></ul>		
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		<ul style="list-style-type: none"><li>• Summary of DRIs for Carbohydrates</li><li>• Carbohydrates and health</li><li>• Back to the case study</li></ul>		
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 4 – Lipids</p> <p>Week of October 7</p>	<p>General objective:</p> <p>By the end of this module, you will be able to recognize the classes, metabolism, and the roles of lipids in the body, as well as the recommendations for fat intake and its association with health and development of diseases.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Identify classes and physicochemical characteristics of dietary lipids.</li> <li>2. Identify dietary sources of lipids and content.</li> <li>3. Name the steps involved in the digestion and absorption of dietary fat.</li> <li>4. Recognize the steps involved in lipids metabolism.</li> <li>5. Define the effects of the life cycle stages and lifestyle on the requirements and use of lipids.</li> <li>6. Interpret and apply recommendations related to lipids.</li> </ol>	<p>Lectures</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 5, p.171-219</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• Case study</li> <li>• Types of lipid molecules</li> <li>• Types of Lipids</li> <li>• Sources of Dietary Lipids</li> <li>• Lipids in the digestive tract</li> <li>• Lipid Functions in the Body</li> <li>• Lipid transport in the body</li> <li>• Meeting recommendations for fat intake</li> <li>• Total Fat Intake Recommendations</li> <li>• Recommendations for Saturated Fat, Trans Fat and Cholesterol</li> </ul>		<ul style="list-style-type: none"> <li>• Post test</li> <li>• Mid-term exam</li> <li>• Project of nutritional assessment</li> </ul>

	<p>7. Describe the role of lipids in the body and in the maintenance of optimal health and the development of chronic diseases.</p> <p>8. Identify important elements to consider when critically analyzing information in order to use reliable sources.</p>	<ul style="list-style-type: none"><li>• Recommendations for Essential Fatty Acids</li><li>• Lipids and health</li><li>• Lipids and Disease Development</li><li>• Myth or Reality</li><li>• Back to the case study</li></ul>		
<b>October 13-19-Reading Week</b>				
<b>October 24-MIDTERM EXAMS</b> <b>Content covered: Modules 1, 2, 3, 4</b>				

Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 5 - Proteins</p> <p>Week of October 21</p>	<p>General Objective:</p> <p>By the end of this module, you will be able to recognize the classes, the metabolism and the roles of proteins in the body, as well as recommendations for protein intake and its association with health and development of diseases.</p> <p>Specific Objectives:</p> <ol style="list-style-type: none"> <li>1. Identify classes and physicochemical characteristics of dietary proteins.</li> <li>2. Identify dietary sources proteins and content.</li> <li>3. Name the steps involved in the digestion and absorption of dietary proteins.</li> <li>4. Recognize the steps</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 6, p. 230-266</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• Case study</li> <li>• Protein molecules</li> <li>• Amino Acids</li> <li>• Protein Molecules</li> <li>• Dietary Sources of proteins</li> <li>• Protein in the digestive tract</li> <li>• Protein Digestion</li> <li>• Health Problems related to Protein Digestion</li> <li>• Protein in the body</li> <li>• Amino Acids Metabolism</li> </ul>		<ul style="list-style-type: none"> <li>• Pre and post-test</li> <li>• Final exam</li> <li>• Assignment on nutritional assessment</li> </ul>

	<p>involved in the metabolism of proteins.</p> <p>5. Define the effects of different life cycle stages and lifestyle on requirements and use of proteins.</p> <p>6. Interpret and apply the recommendations related to proteins.</p> <p>7. Describe the role of proteins in the body and in the maintenance of optimal health and the development of chronic disease.</p> <p>8. Identify important elements to consider when critically analyzing information in order to use reliable sources.</p>	<ul style="list-style-type: none"> <li>• Nitrogen Balance</li> <li>• Meeting protein needs</li> <li>• Protein and health</li> <li>• Insufficient Protein Intake</li> <li>• Excessive Protein Intake</li> <li>• Back to the case study</li> </ul>		
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 6 - Energy Balance and Weight Management</p> <p>Week of October 28</p>	<p>General objective:</p> <p>By the end of this module, you will be able to recognize concepts related to energy such as the energy value of foods, energy requirements, intake and expenditure, and factors influencing body weight management.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Recognize measurement units and conversion factors related to energy.</li> <li>2. Identify the energy value of foods and their contribution to total energy intake.</li> <li>3. Related factors involved in the regulation of energy intake and expenditure (energy balance).</li> <li>4. Identify factors (ex. genetic, physiological, environmental, lifestyle) affecting weight and</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 7, p.267-316</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• Case Study</li> <li>• Energy balance</li> <li>• Energy intake</li> <li>• Food Energy Value</li> <li>• Food Energy Density</li> <li>• Regulation of Food Intake</li> <li>• Weight Loss Diets</li> <li>• Energy expenditure and needs</li> <li>• Basal Metabolism</li> <li>• Physical Activity</li> <li>• Thermic Effect of Food</li> <li>• Estimating Energy Needs</li> <li>• Energy metabolism</li> </ul>		<ul style="list-style-type: none"> <li>• Post test</li> <li>• Mid-term exam</li> <li>• Nutritional assessment</li> </ul>

	<p>body composition.</p> <p>5. Identify the steps of the process of energy production in the cell.</p> <p>6. Describe the role of energy balance or imbalance in maintaining optimal health and developing chronic disease. (Suggestion: Describe the link between energy balance and health. )</p>	<ul style="list-style-type: none"><li>• Body weight</li><li>• Assessment of Weight and Body Composition</li><li>• Body Weight and Health</li><li>• Back to the case study</li></ul>		
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 7 – Vitamins</p> <p>Weeks of November 4 and November 11</p>	<p>General Objective:</p> <p>By the end of this module, you will recognize important principles of vitamins and their important functions in the body.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Distinguish between water-soluble and fat-soluble vitamins.</li> <li>2. Identify the main dietary sources of vitamins.</li> <li>3. Match bodily functions with the correct vitamin(s).</li> <li>4. Identify the nutrition recommendations for vitamins.</li> <li>5. Identify how requirements for vitamins vary throughout the life cycle and the factors that can influence vitamin needs.</li> <li>6. Identify how deficiencies and excesses in vitamins can lead to disease, and the signs and symptoms associated with the disease or toxicity.</li> <li>7. Identify aspects associated with the</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 8, p.326-373</li> <li>• Chapter 9, p.374-402</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• What are vitamins?</li> <li>• Classification of Vitamins</li> <li>• Understanding Vitamin Functions</li> <li>• Water-soluble vitamins</li> <li>• The B-vitamins</li> <li>• Fat-soluble vitamins</li> <li>• Focus on the Fat-Soluble Vitamins</li> </ul>		<ul style="list-style-type: none"> <li>• Post test</li> <li>• Work on your nutritional self-evaluation</li> </ul>

	critical analysis of information related to vitamins using reliable sources.			
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 8 - Minerals, Water and the Electrolytes</p> <p>Weeks of November 18 and November 25</p>	<p>General Objective:</p> <p>By the end of this module, you will be able to recognize important principles of minerals, water and electrolytes, as well as their functions in the body and nutrition recommendations and the links with health and disease.</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Distinguish between the two classes of minerals (major minerals and trace elements).</li> <li>2. Identify the main dietary sources of minerals in the Canadian diet.</li> <li>3. Describe how interactions among minerals and other dietary constituents affect mineral bioavailability</li> <li>4. Identify the functions of minerals, water and electrolytes in the body.</li> </ol>	<p>Lectures:</p> <p>Textbook - Nutrition: Science and Applications</p> <ul style="list-style-type: none"> <li>• Chapter 10, p. 409-437</li> <li>• Chapter 11, p.438-467</li> </ul> <p>Web pages:</p> <ul style="list-style-type: none"> <li>• What are minerals?</li> <li>• Classification and function of minerals</li> <li>• Mineral functions</li> <li>• Major minerals-structural minerals and electrolytes</li> <li>• Major Structural Minerals</li> <li>• Magnesium</li> <li>• The Electrolytes: Sodium, potassium and chloride</li> <li>• Chlorine</li> <li>• Trace elements</li> <li>• Zinc</li> </ul>		<ul style="list-style-type: none"> <li>• Post test</li> <li>• Mid-term exam</li> <li>• Work on your nutritional self-evaluation</li> </ul>

	<p>5. Identify the nutrition recommendations related to minerals, electrolytes and water.</p> <p>6. Identify how mineral and water requirements vary throughout the life cycles and the factors that can influence the body's mineral, electrolyte, and water needs.</p> <p>7. Identify how deficiency and excess of minerals, electrolytes, and water can lead to disease as well as the signs and symptoms associated with deficiency or toxicity.</p> <p>8. Identify aspects associated with the critical analysis of information relating to minerals, electrolytes, and water using reliable sources.</p>	<ul style="list-style-type: none"><li>• Iron</li><li>• Copper</li><li>• Iodine</li><li>• Selenium</li><li>• Fluoride (F)</li><li>• Water: The internal sea</li></ul>		
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Dates and Module	Learning Objectives	Content	Activities with Formative Evaluation <sup>1</sup>	Summative Evaluation <sup>2</sup>
<p>Module 9 - The Dietetics Profession</p> <p>Week of December 2</p>	<p>General Objective:</p> <p>By the end of this module, you will be able to identify the roles, work environments and qualifications of a Registered Dietitian (R.D.).</p> <p>Specific objectives:</p> <ol style="list-style-type: none"> <li>1. Differentiate between the terms registered dietitian and nutritionist.</li> <li>2. Identify the education required to become a registered dietitian.</li> <li>3. Differentiate between the role of the College of Dietitians and Dietitians of Canada, which are both professional associations of Dietitians.</li> <li>4. List the main roles and functions of a registered dietitian.</li> <li>5. Identify the various workplace settings and clientele of registered dietitians.</li> <li>6. Identify when to refer a client to a registered dietitian.</li> </ol>	<p>Web pages:</p> <ul style="list-style-type: none"> <li>• The dietetic profession</li> <li>• Dietitian or Nutritionist?</li> <li>• Dietetic Education</li> <li>• Theoretical Training</li> <li>• Practical Training</li> <li>• Registration with a College of Dietitians</li> <li>• Professional Colleges and Associations</li> <li>• The Roles and Workplaces of Dietitians</li> <li>• Dietitians in Clinical Nutrition – What Do They Do?</li> <li>• Dietitians in Community Nutrition and Public Health</li> <li>• Dietitians in Food Services Management</li> <li>• Dietitians in other Fields of the Profession</li> <li>• When Should an Individual</li> </ul>		<ul style="list-style-type: none"> <li>• Post test</li> <li>• Work on your term assignment</li> </ul>

	7. Recognize the role of professionalism (ex. jurisprudence, ethics, etc.) in the dietetic profession.	Consult a Dietitian? <ul style="list-style-type: none"><li>• What is Professionalism?</li></ul>		
Exam period- December 5-18. Modules 5, 6, 7, 8 and 9				

