

MODULE FOD3020: NUTRITION & DIGESTION

Level: Advanced

Theme: Nutrition

Prerequisite: FOD1010 Food Basics

Module Description: Students learn about nutrition and how the body processes food, by appraising current nutritional theories/issues and dietary needs.

Note: This module will be appropriate for Community Health students interested in developing understanding of nutrition and digestion. Practical experiences in meeting food needs of various individuals may not require the student to prepare the foods.

Module Parameters: Personal or commercial food preparation facility.

Curriculum and Assessment Standards

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> describe the processes of digestion, absorption and metabolism in relation to nutrient composition explain the role of water, minor vitamins and minerals in achieving and maintaining wellness 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> concept test consisting of questions on: <ul style="list-style-type: none"> digestion, absorption and metabolism of carbohydrates, fats and proteins and corresponding changes in their structures chemical structure, fuel factors of carbohydrates, fats and proteins roles of glucose, glycogen, high- and low-density lipoproteins, complete and incomplete proteins role of water in the body functions, sources and deficiency symptoms of: Vitamins E, K, B₆, B₁₂, Folic acid, sodium, potassium, phosphorous, iodine, zinc factors that affect nutrient intake effect of cooking and processing on nutrients. <p><i>Assessment Tool</i> Food for Today <i>Testing Program</i> Food for Life <i>Teacher Resource</i></p> <p><i>Standard</i> <i>Correctly answer a minimum of 50% of questions</i></p>	20

MODULE FOD3020: NUTRITION & DIGESTION (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • describe nutrient intake, food patterns and diet therapies, considering the prevention and management of disease • interpret current nutrition controversies 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • research project in which the student: <ul style="list-style-type: none"> – plans meals for a minimum of two days, which achieve the guidelines for carbohydrate, fat and protein intake described in the <i>Nutrition Recommendations for Canadians</i> – plans meals for a minimum of one day within the constraints of a selected diet-related disease – interprets nutrition labels from a minimum of three foods representative of three food groups – evaluates a current nutrition controversy or food practice. <p><i>Assessment Tool</i> <i>Food Label Analysis, FOD2010–1</i> <i>Intake Analysis, FODFIA</i> <i>Research: Nutrition & Digestion, FOD3020–1</i> <i>Nutrition Information Analysis, FODNIA</i> <i>DINE Healthy, computerized dietary analysis</i></p> <p><i>Standard</i> <i>Achieve a minimum performance rating of 3 in applicable areas of assessment</i> <i>All sections have been completed accurately</i></p>	<p>30</p>
<ul style="list-style-type: none"> • prepare meal plans with specified nutrient composition • prepare and evaluate foods for specified meal plans 	<ul style="list-style-type: none"> • practical lab experiences in which the student prepares and evaluates the following foods, each of which meets criteria for quality products: <ul style="list-style-type: none"> – a food appropriate for dietary management of a diet-related disease – at least three foods selected to improve the intake of different nutrients – a food that demonstrates an acceptable carbohydrate/fat/protein ratio. <p><i>Assessment Tool</i> <i>Lab Assessment: Advanced Level, FODLAB–3</i> <i>Product Analysis: Special Needs, FODPAS</i></p> <p><i>Standard</i> <i>Achieve a minimum performance rating of 3 in applicable areas of assessment</i> <i>All sections have been completed accurately</i></p>	<p>40</p>

MODULE FOD3020: NUTRITION & DIGESTION (continued)

Module Learner Expectations	Assessment Criteria and Conditions	Suggested Emphasis
<p><i>The student will:</i></p> <ul style="list-style-type: none"> • describe the personal or career relevance of the competencies developed within the module, and identify labour market dynamics that may be significant for career choices • demonstrate basic competencies. 	<p><i>Assessment of student achievement should be based on:</i></p> <ul style="list-style-type: none"> • module reflection in which the student will complete one of the following: <ul style="list-style-type: none"> – <i>Career Research: Advanced Level, FODCAR-3</i> – <i>Job Shadow Assessment, FODJS</i> – <i>Career Profile Guide, FODCPG</i> – <i>Evaluation of Oral Presentation or Demonstration, FODPRES.</i> <p><i>Standard</i> <i>All sections have been completed accurately</i></p> <ul style="list-style-type: none"> • observations of individual effort and interpersonal interaction during the learning process. <p><i>Assessment Tool</i> <i>Basic Competencies Reference Guide and any assessment tools noted above</i></p>	<p>10</p> <p>Integrated throughout</p>

Concept	Specific Learner Expectations	Notes
<p>Nutrition</p>	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • relate the organs of the digestive system with the physical and chemical breakdown of nutrients • explain the role of enzymes in the digestive process • describe food sources of carbohydrates, fats and proteins and the body's need for these nutrients • relate changes in the structure of carbohydrates, fats and proteins with their digestion, absorption and metabolism • compare fuel factors for carbohydrate, fat and protein • differentiate between monosaccharides, disaccharides and polysaccharides • describe the roles of glucose and glycogen in the body 	

MODULE FOD3020: NUTRITION & DIGESTION (continued)

Concept	Specific Learner Expectations	Notes
Nutrition (continued)	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • describe the storage of excess energy as fat in the body • differentiate between the impact of high-density and low-density lipoproteins on the health of the heart and blood vessels • differentiate between dietary and serum cholesterol in predicting the risk of heart disease • compare essential and non-essential amino acids • contrast the digestion, absorption and utilization of vitamins and minerals with the energy providing nutrients • describe the role of water in the body • explain the function and identify sources of the minor vitamins: <ul style="list-style-type: none"> – Vitamin E – Vitamin K – Vitamin B₆ – Vitamin B₁₂ – Folic acid • relate inadequate intake of these vitamins with deficiency symptoms and/or diseases • explain the function and identify sources of minerals: <ul style="list-style-type: none"> – sodium – potassium – phosphorous – iodine – zinc • relate inadequate intake of these minerals with deficiency symptoms and/or diseases • identify factors that contribute to inadequate intake of vitamins and minerals. 	

MODULE FOD3020: NUTRITION & DIGESTION (continued)

Concept	Specific Learner Expectations	Notes
Management	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • describe the role of dietary management in various diet-related diseases • assess the psychological and social impact on individuals of adherence to diet therapy • identify strategies for increasing the acceptability of diet therapy to individuals. 	<p>Diabetes, food allergies, celiac disease, lactose intolerance, hypertension.</p> <p>Interview diabetic student.</p>
Consumerism	<ul style="list-style-type: none"> • interpret nutrition labelling • evaluate nutrient content of foods and meal plans according to Recommended Nutrient Intake tables • identify criteria for evaluating nutrition information and misinformation • list and describe current nutrition controversies • evaluate given food practices for nutrition implications. 	<p>Vitamin and mineral supplements, nutrition claims for specific food products, e.g., bee pollen.</p> <p>Use of amino acid supplements by athletes.</p>
Preparation and Presentation	<ul style="list-style-type: none"> • compare the impact of cooking and processing on nutrient content of foods • plan, prepare and evaluate foods and meals: <ul style="list-style-type: none"> – within the guidelines for carbohydrate, fat and protein intake – within the context of dietary management of diet-related diseases • prepare and evaluate a variety of foods in order to improve intake of specific nutrients. 	<p>Community Health students may develop these competencies in settings such as day cares or nursing homes, where they have the opportunity to evaluate the nutrient value and the acceptability and appropriateness of foods without participating in preparation of the foods.</p> <p>Low sodium foods, high protein foods, high fibre foods, lower fat foods, etc.</p>

MODULE FOD3020: NUTRITION & DIGESTION (continued)

Concept	Specific Learner Expectations	Notes
Safety, Sanitation and Equipment	<p><i>The student should:</i></p> <ul style="list-style-type: none"> • demonstrate safe hygienic work habits and the correct use of tools and equipment • identify and resolve safety concerns, both food and equipment, significant to Nutrition & Digestion. 	
Career Exploration/ Portfolio	<ul style="list-style-type: none"> • describe career options where skills developed in Nutrition & Digestion are particularly important • describe various occupational and entrepreneurial roles related to this module. 	Dietitian, nutritionist, diet consultant, food scientist, home economist, foods teacher.