

842150

Nutrition for Healthy Living 120

New  Brunswick

**Department of Education
Educational Programs & Services Branch
2005**

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Introduction

Through research, the science of nutrition continues to expand. It is important to understand information provided and to make smart, healthy decisions. Nutrition for Healthy Living 120 is designed to make students aware of preventative strategies to contribute to overall wellness, make healthy food choices and maintain a balance between eating habits and physical activity. Current issues relating to chronic diseases, lifestyles and food technologies will also be discussed. Students will be encouraged to use reliable information to examine their eating habits and lifestyle choices.

This is an excellent course for those concerned with personal wellness or for students who wish to pursue a career in science and nutrition or health-related fields.

Learning Activities

Throughout this document, suggestions are provided for teaching and learning activities and projects. Sample assignments are provided in Appendices E-H. Students may complete assignments individually or in groups. Teachers are encouraged to use these suggestions as well as develop their own.

Prerequisite

None

General Curriculum Outcomes

Upon the completion of this course, students will meet the following outcomes:

- **GCO 1** Identify the factors that determine one's long-term health and wellness.
- **GCO 2** Explain the roles of nutrients in the body - digestion, absorption, transportation and metabolism.
- **GCO 3** Identify chronic conditions and the current trends and issues related to their prevention.
- **GCO 4** Identify consumer issues related to food.
- **GCO 5** Identify post-secondary education programs available to those who wish to pursue a career in nutrition.

Duration

90 hours

Course Code

1215440

NUTRITION FOR HEALTHY LIVING 120

GCO 1 Identify the factors that determine one's long-term health and wellness.

Specific Curriculum Outcomes:

Students will be expected to:

- define wellness

- identify the factors that influence one's total wellness
 - heredity
 - environment
 - lifestyle habits
 - health care

- investigate the guidelines used to promote health and wellness
 - heart and stroke
 - cancer society
 - dietary guidelines
 - Canada's Food Guide to Healthy Eating
 - Canada's Physical Activity Guide to Healthy Active Living
 - Vitality Approach

- develop a personal, healthy lifestyle plan that demonstrates the factors that influence their own personal wellness and health risks

Suggestions for Teaching/Learning:

Students brainstorm components of total wellness.

Students research the word "wellness" in dictionaries or on the Internet and write definitions.

The teacher discusses the components of the wellness wheel.

Students interview their parents regarding family health history. Students will use this information later to develop their "Personal Healthy Lifestyle Plan." Note: The teacher should be aware of the varied socio-economic conditions in which students live.

The teacher provides students with an outline of acceptable standards of health and wellness.

Students compare and contrast one another's wellness habits.

The teacher invites guest speakers from the Heart and Stroke Foundation, Canadian Cancer Society and local dietitians to discuss their recommendations for long-term wellness.

Students record guidelines suggested by these groups (if speakers are not available, see resources).

Students prepare an in-depth, personal assessment of their own wellness based on the factors influencing health and wellness.

Students visit various health-related websites and complete quizzes, activities, games and challenges to determine their health knowledge and risks.

NUTRITION FOR HEALTHY LIVING 120

GCO 1 Identify the factors that determine one's long-term health and wellness.

Suggestions for Learning/Assessment:

Using the components of the “Wellness Wheel,” students write a report entitled “A Day in the Life of a Well Person.”

Students analyze their wellness habits. This should include time schedules, media and buying habits, diet, exercise and their values as related to nutrition.

Students choose the guidelines they interpret as necessary to improve their total wellness and develop their “Personal Healthy Lifestyle Plan.” The teacher develops assessment criteria using wellness guidelines from:

www.heartandstroke.ca

www.hc-sc.gc.ca

www.cancer.ca

www.dietitians.ca

Students reflect on the knowledge gained in this unit to write a “Personal Healthy Lifestyle Plan.”

Resources:

Appendix D- Wellness Wheel
Nutrition, Food, and Fitness, Chap 1
Health, Making Life Choices, Chap 1 and 2

Nutrition, Food, and Fitness, Chap 15, 17, 18
and 19
Health, Making Life Choices, Chap 4, 9, 11, 12,
13, 14, 15, 16 and 17

Heart and Stroke Foundation website

www.heartandstroke.ca

Health Canada website

www.hc-sc.gc.ca

Handbook for Canada's Physical Activity
Guide to Healthy Active Living

The Vitality Approach: A Guide for Leaders

Canada's Food Guide to Healthy Eating

Canadian Cancer Society www.cancer.ca

Seven Steps to Health

www.dietitians.ca Nutrition Challenge

HEPAC www.hepac.ca

Appendix E: Personal Healthy Lifestyle Plan

www.heartandstroke.ca – Assess Your Risk

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body- digestion, absorption, transportation and metabolism.

Specific Curriculum Outcomes:

Students will be expected to:

- identify and define the six categories of nutrients
 - carbohydrate
 - fat
 - protein
 - vitamins
 - minerals
 - water
- understand the roles of carbohydrates in the body

Suggestions for Teaching/Learning:

The teacher discusses the categories of nutrients and their overall importance to health.

The teacher discusses the chemical composition of carbohydrates and distinguishes between simple and complex carbohydrates.

The teacher discusses the many roles of carbohydrates in the body:

- energy
- protein-sparing
- manufactures non-essential amino acids
- completes oxidation of fat
- favours growth of certain intestinal bacteria
- aids digestion
- adds flavour and texture

The teacher discusses the digestion, transportation, absorption and metabolism of carbohydrates.

Using a diagram of the digestive system, students trace the digestion and absorption of carbohydrates.

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body - digestion, absorption, transportation and metabolism.

Suggestions for Learning/Assessment:

Students name the six categories of nutrients and distinguish among the energy nutrients, vitamins and minerals. Students match each category of nutrients with its major source from the food guide.

Teacher evaluates the diagram of digestion of carbohydrates traced by the students.

Assignment: Lactose Intolerance
(Appendix H - Sample Unit Assignments)
Unit Test on Carbohydrates

Resources:

Nutrition, Food and Fitness, Chap 3
Health, Making Life Choices, Chap 7
Understanding Nutrition, 9th Edition, Chap 1
Canada's Food Guide to Healthy Eating

Nutrition, Food, and Fitness, (Science of Wellness) Chap 5
Diagram of digestive system
Understanding Nutrition, 9th Edition, Chap 4
Appendix H

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body - digestion, absorption, transportation and metabolism.

Suggestions for Learning/Assessment:

Students prepare a visual aid identifying the types of fat and foods they are found in.

Teacher evaluates the diagram of digestion of fats traced by the students.
Teacher administers a unit test on fat.

Teacher evaluates the diagram of digestion of protein traced by the students.

Students compile a list of “good” to “excellent” sources of protein.

Teacher administers a unit test on protein.

Resources:

Nutrition, Food, and Fitness, Chap 6
Understanding Nutrition, 9th Edition, Chap 5
Diagram of digestive system

Nutrition, Food, and Fitness, Chap 7
Understanding Nutrition, 9th Edition, Chap 6
Diagram of digestive system

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body- digestion, absorption, transportation and metabolism.

Specific Curriculum Outcomes:

Students will be expected to:

- understand the roles of vitamins in the body
 - vitamin A (retinol)
 - vitamin B1 (thiamin)
 - vitamin B2 (riboflavin)
 - vitamin B3 (niacin)
 - vitamin B6 (pyridoxine)
 - folic acid
 - vitamin B12 (cobalamin)
 - vitamin C (ascorbic acid)
 - vitamin D
 - vitamin E
 - vitamin K

- understand the role of minerals and water in the body
 - calcium
 - phosphorus
 - sodium
 - magnesium
 - potassium
 - iron
 - zinc
 - fluoride
 - iodine
 - water

Suggestions for Teaching/Learning:

The teacher discusses water-soluble and fat-soluble vitamins.

The teacher discusses the roles, absorption and transportation of each vitamin in the body. Students research the potential health benefits of antioxidants.

Students research diseases associated with vitamin deficiencies, choose one and prepare a poster illustrating the disease, cause and prevention.

Students research “good” to “excellent” food sources of each vitamin.

The teacher discusses the role and absorption of each mineral in the body.

Students distinguish between major and trace minerals.

Students research “good” to “excellent” food sources of each mineral.

The teacher discusses the importance of water to the body:

- carries nutrients and waste
- structure of protein
- solvent for nutrients
- digestion
- regulates body temperature
- maintains blood volume
- lubricant and cushion

The students research sources of fluids containing water that will hydrate/replace body fluids and those that will dehydrate the body.

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body - digestion, absorption, transportation and metabolism.

Suggestions for Learning/Assessment:

Students prepare a written report outlining the potential health benefits of antioxidants.
Teacher evaluates students' posters on a deficiency disease.
Teacher administers a unit test on vitamins.

Each student prepares a PowerPoint presentation on one vitamin or mineral (assign or have students choose so that all are covered).
Assignment: Vitamin/Mineral Deficiency (Appendix H: Sample Unit Assignments)

The teacher develops assessment criteria to determine how well students demonstrate their knowledge of the role of the vitamin or mineral in the body.

Resources:

Nutrition, Food, and Fitness, Chap 8
Understanding Nutrition, 9th Edition, Chap 10 and 11

Nutrition, Food, and Fitness, Chap 9 and 10
Understanding Nutrition, 9th Edition, Chap 12 and 13
Appendix H

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body - digestion, absorption, transportation and metabolism.

Specific Curriculum Outcomes:

Students will be expected to:

- calculate the recommended intake of carbohydrate, protein and fat to meet their needs

- analyze intake of important nutrients

Suggestions for Teaching/Learning:

The teacher provides the formula to calculate the RNI (recommended nutrient intake) of carbohydrate, protein and fat. The students calculate the RNI for each of the energy nutrients. Students research the RNI of each of the vitamins and minerals studied.

Students record what they eat and drink over a period of three to seven days. Students complete the diet analysis assignment. (Appendix F)

NUTRITION FOR HEALTHY LIVING 120

GCO 2 Explain the roles of nutrients in the body - digestion, absorption, transportation and metabolism.

Suggestions for Learning/Assessment:

The teacher prepares sample problems for students to calculate the RNI of the energy nutrients.
Students record the RNI for each nutrient based on students' individual needs.

Teacher evaluates nutrient analysis assignment.

Resources:

Nutrition, Food, and Fitness, Chap 3, 4 and 12
Understanding Nutrition, 9th edition, Chap 1, 4, 5, 6, 10, 11, 12 and 13

Nutrition, Food, and Fitness, Chap 4
Food Focus Nutrition Analysis Software, Version 3.3
Appendix F: Personal Diet Analysis
Health Canada - Nutritive Value of Some Common Foods
Understanding Nutrition, 9th Edition, Table of Food Composition, Appendix H, pages H1-H87

NUTRITION FOR HEALTHY LIVING 120

GCO 3 Identify chronic conditions and the current trends and issues related to their prevention.

Specific Curriculum Outcomes:

Students will be expected to:

- define chronic condition

- identify and understand ways to reduce risks of chronic conditions
 - cancers
 - hypertension
 - atherosclerosis
 - stroke
 - diabetes- type 2
 - osteoporosis
 - obesity vs. healthy body weight
 - dental and oral disease

Suggestions for Teaching/Learning:

Students research definitions of chronic conditions using the textbook or Internet sources.

Students visit the Centre for Chronic Disease Prevention and Control website for current information on deaths in Canada.

www.phac-aspc.gc.ca/ccdpc-cpcmc/index.html

The teacher discusses each of the chronic conditions, their causes, symptoms and risks as they relate to nutrition and a healthy lifestyle.

The teacher invites guest speakers from the following list to discuss chronic conditions:

- person suffering from the condition
- doctor
- dentist
- dietitian
- public health nurse
- representatives from various associations

The teacher demonstrates how to determine body mass index and discusses its purpose. Students determine what their body shape is and its relationship to their health.

The teacher presents scenarios of various body shapes, weights and heights for students to examine.

NUTRITION FOR HEALTHY LIVING 120

GCO 3 Identify chronic conditions and the current trends and issues related to their prevention.

Suggestions for Learning/Assessment:

Students compile a list of chronic conditions.

Students visit the Centre for Chronic Disease Prevention and Control website over a period of approximately one week and report on the incidence of death from each chronic condition.

Students integrate math skills by calculating the rate of death from each disease.

Students present a research project on a chronic condition of their choice, chosen from a list provided by the teacher.

Presentation should include:

- description of the disease
- symptoms
- risk factors/causes
- prevention
- treatment

Students calculate their body mass index and analyze their findings.

The teacher prepares an assessment of student's analysis of body shape, height and weight scenarios.

Using the text book, the teacher develops a unit test.

Resources:

Internet resources

Centre for Chronic Disease Prevention and Control -

www.phac-aspc.gc.ca/ccdpc-cpcmc/index.html

Health, Making Life Choices, Chap 17

Understand Nutrition, 9th Edition, Chap 18

Heart and Stroke Foundation -

www.heartandstroke.ca

Canadian Cancer Society -

www.cancer.ca

Health Canada -

www.hc-sc.gc.ca

Dietitians of Canada -

www.dietitians.ca

Canadian Diabetes Association -

www.diabetes.ca

Osteoporosis of Canada -

www.osteoporosis.ca

Canadian Dental Association -

www.cda-adc.ca

Centre for Chronic Disease Prevention and Control -

www.phac-aspc.gc.ca/ccdpc-cpcmc/index.html

Chronic Disease Prevention Alliance of Canada -

www.chronicdiseaseprevention.ca

Appendix H

NUTRITION FOR HEALTHY LIVING 120

GCO 3 Identify chronic conditions and the current trends and issues related to their prevention.

Specific Curriculum Outcomes:

Students will be expected to:

- investigate current trends and issues related to nutritional health
 - glycemic effect
 - “carbohydrate loading” / sport nutrition
 - trans fatty acids
 - fad diets
 - vegetarian diets
 - holistic approach

- understand how energy balance applies to weight management
 - overweight
 - underweight
 - eating disorders

Suggestions for Teaching/Learning:

Students research current information relating to the glycemic effect and how it relates to carbohydrates.

The teacher discusses the role of complex carbohydrates in sport nutrition.

Students research the effects of hydrogenation of oils and the health effects associated with this process.

Students work in pairs to research the nutritional value of a fad diet.

Students investigate the types of vegetarian diets and the foods they include to ensure vegetarians get the RDA (recommended dietary allowance) of all essential nutrients.

The teacher invites a guest speaker into the class who offers experience working in a health food store or holistic medicine to discuss alternative medicine.

The teacher explains the concept of energy balance and how it relates to weight management.

The teacher explains the terms - underweight, healthy weight, overweight, obese and morbidly obese.

Using their BMI results, students identify the term that best applies to their weight.

The teacher discusses the terms associated with eating disorders.

Students brainstorm criteria used to identify possible eating disorders.

NUTRITION FOR HEALTHY LIVING 120

GCO 3 Identify chronic conditions and the current trends and issues related to their prevention.

Suggestions for Learning/Assessment:

Students compile a list of “good” and “bad” carbohydrates and identify where they place on the glycemic index.
Students write a meal plan for an athlete who is preparing for a competition.
Students compile a list of foods containing “trans fats.”
Students present their research findings on fad diets in a PowerPoint presentation or research paper.
Students write a one day meal plan for a vegetarian.
Students prepare a written report on holistic alternatives to medicine, based on the speaker’s presentation.

Students explain the “3500 calorie rule” of energy balance.
Students record definitions for each of the weight-related terms discussed by the teacher.
Teacher administers a unit test.

Resources:

Nutrition, Food, and Fitness, Chap 12, 13 and 16
Understanding Nutrition, 9th Edition, Chap 4, 14, 18 and Highlights (page 636-641)
<http://www.glycemicindex.ca>
Pamphlet: Sport Nutrition, Milk Marketing Board Appendix H

Nutrition, Food, and Fitness, Chap 12, 13 and 14
Understanding Nutrition, 9th Edition, Chap 9 Appendix H

NUTRITION FOR HEALTHY LIVING 120

GCO 4 Identify consumer issues related to food.

Suggestions for Learning/Assessment:

Each group presents an analysis of five ads that they feel would have the greatest impact on their food choices.

Students compile a list of additives used in food and classify them according to their use (purpose and food used in):

- colour
- emulsifiers
- preservatives
- nutrients
- antioxidants
- stabilizers, thickeners and texturizers
- pH control agents
- maturing and bleaching agents
- sweeteners and flavor enhancers

Students complete Assignment: Labels and Additives (Appendix G)

Resources:

Nutrition, Food, and Fitness, Chap 22
Magazines or other media sources
Appendix H

Understanding Nutrition, Chap 19, page 661-666
Health Canada - www.hc-sc.gc.ca Food and Drug Act, Food and Drug Regulations, Part B, Division 16

Nutrition, Food, and Fitness, Chap 22
Understanding Nutrition, Chap 2 Nutrition Labelling Toolkit for Educators from Health Canada - www.hc-sc.gc.ca
Virtual Grocery Store at www.healthyeatingisinstore.ca
Appendix G

NUTRITION FOR HEALTHY LIVING 120

GCO 4 Identify consumer issues related to food.

Specific Curriculum Outcomes:

Students will be expected to:

- identify food technologies
 - genetically modified foods
 - organic foods
 - natural foods

- identify procedures used in safe food handling
 - storage
 - preservation
 - sanitation
 - food borne illnesses

Suggestions for Teaching/Learning:

The teacher discusses the terminology related to food technologies. Students research the benefits and consequences of food technologies and record their findings.

Students are given a list of foods to classify into proper storage: dry, refrigerated, or frozen. The teacher discusses safe food handling practices and causes of food borne illnesses. The teacher invites a public health inspector from NB Health and Wellness to discuss safe food handling practices. Students research and record information pertaining to food borne illnesses and create a food safety poster.

NUTRITION FOR HEALTHY LIVING 120

GCO 4 Identify consumer issues related to food.

Suggestions for Learning/Assessment:

Students complete a report or a visual presentation on their research of food technology.

Students develop recommendations to be followed when handling food.
Teacher administers a unit test.

Resources:

Internet research
Understanding Nutrition Highlights, pages 672-675
What's For Dinner- Genetic Engineering, From the Lab to your Plate by the Food Safety Network - www.foodsafetynetwork.ca or toll free at 1-866-50SNET
BIOTECanada - www.biotech.ca
Appendix H

Nutrition, Food, and Fitness, Chap 20
Understanding Nutrition, Chap 19
Appendix H

NUTRITION FOR HEALTHY LIVING 120

GCO 5 Identify post-secondary education programs available to those who wish to pursue a career in nutrition.

Specific Curriculum Outcomes:

Students will be expected to:

- identify career opportunities and the post-secondary education needed to pursue a career in nutrition

Suggestions for Teaching/Learning:

The teacher and students invite career people to discuss their training and work.
The teacher identifies employment opportunities in the food science field.
The teacher provides a list of university/college websites for students to research and identify programs available.
Students identify the required high school courses needed for admission into post-secondary education, as well as other high school courses that may benefit their studies.
Students review their course load to evaluate whether or not they have the courses required for entrance.

NUTRITION FOR HEALTHY LIVING 120

GCO 5 Identify post-secondary education programs available to those who wish to pursue a career in nutrition.

Suggestions for Learning/Assessment:

Students reflect on information gained from guest speakers and Internet sites and present a project that will include the following:

- preferred career path
- training required
- where available
- length of program
- cost
- job possibilities when completed

Resources:

Nutrition, Food, and Fitness, Chap 25
Guest Speakers
Post-secondary calendars and/or websites
Appendix H

APPENDICES

Appendix A

Course Overview

GCO 1: Health and Wellness

- Define wellness
- Influences on health and wellness
- Guidelines written to promote long-term health and wellness
- Write a plan for long-term health and wellness

GCO 2: Nutrients and Their Functions - Digestion, Absorption and Metabolism

- Carbohydrates
- Fat
- Protein
- Vitamins
- Minerals
- Water
- Recommended nutrient intake
- Deficiency and toxicity of nutrients
- Personal diet recording and analysis

GCO 3: Health Trends and Issues

- Chronic conditions and disease prevention
- Glycemic effect
- Carbohydrate loading/sport nutrition
- Trans fatty acids
- Fad diets
- Vegetarian diets
- Holistic approach - alternative medicine
- BMI
- Eating disorders

GCO 4: Consumer Issues

- Advertising
- Labelling and nutrition facts/claims
- Additives
- Food technologies
- Food safety

GCO 5: Post-Secondary Education and Careers Relating to Nutrition

Course Timeline

Course completion will require one semester of 18 weeks from the time of registration. It is essential that deadlines be met if the course work is to be finished in that time. You should always keep in mind your school's deadlines for submission of marks for final reports, and especially for graduation, as school timelines may not coincide exactly with those of this course.

<i>Unit</i>	<i>To be completed by the end of:</i>
Introduction, Course Outline, Expectations and Evaluation	Day 2 after starting the course
Unit 1: Wellness	Week 2 after starting the course
Unit 2: Nutrients	Week 9 after starting the course
Unit 3: Health Trends and Issues	Week 14 after starting the course
Unit 4: Consumer Issues	Week 17 after starting the course
Unit 5: Education and Careers Review for the Exam	Week 18 after starting the course

Appendix B Sample Evaluation Strategy

Unit	Assign #	Title	Assign - % of term evaluation	Assign - total point value	Unit Test - % of term evaluation	Unit Test - total point value
1	1.1	Day in the Life of a Well Person	3%	15		
	1.2	Lifestyle-Wellness Plan	5%	25	5%	25
2	2.1	Nutrients	2%	10		
	2.2	Lactose Intolerance	2%	10		
	2.3	Vitamin/Mineral Deficiency	5%	25		
	2.4	Supplement Use	3%	15		
	2.5	Diet Analysis	10%	50	10%	50
3	3.1	Treatment of Obesity	3%	15		
	3.2	GI Index	3%	15		
	3.3	Diet Types	5%	25	10%	50
4	4.1	Food Ads	5%	25		
	4.2	Labels & Additives	5%	25		
	4.3	Food Technologies	3%	15		
	4.4	Storage	3%	15		
	4.5	Food Borne Illness	5%	25		
	4.6	Food Safety Poster	3%	15	5%	25
5	5.1	Interview	3%	15		
	5.2	Career Path	2%	10	No test	
Term Mark Total			70%	350	30%	150

A final exam, valued at 30% of the final mark, is recommended for this course.

Appendix C

Suggested Resources

A) INTERNET RESOURCES:

- www.cancer.ca
- www.heartandstroke.ca
- www.hc-sc.gc.ca
- www.iom.edu
- www.who.int
- www.canadian-health-network.ca
- www.chronicdiseaseprevention.ca
- www.phac-aspc.gc.ca/ccdpc-cpcmc/index.html
- www.dietitians.ca
- www.diabetes.gc.ca
- www.jdfc.ca
- www.osteoporosis.ca
- www.glycemicindex.com
- www.coaches.ca
- www.smscc.ca
- www.dietsguide.com
- www.drphil.com
- www.lowcarb.ca
- www.sbdiet.ca
- www.weightwatchers.ca
- www.risingwomen.com/tops
- www.zonediet.com
- www.naturopathicassoc.ca
- <http://nccam.nih.gov/health/whatiscaam>
- www.healthyeatingisinstore.ca
- www.gnb.ca
- www.foodsafetynetwork.ca
- www.biotech.ca
- www.canfightbac.org
- www.upei.ca
- www.acadiau.ca
- www.stfx.ca
- www.msvu.ca
- www.umoncton.ca
- www.mcgill.ca
- www.umontreal.ca
- www.uouelph.ca
- www.ryerson.ca
- www.brescia.uwo.ca
- www.umanitoba.ca
- www.usask.ca
- www.ualberta.ca
- www.ubc.ca

- www.distanceedcanada.ca
- www.open.uoguelph.ca
- www.mun.ca
- <http://is.dal.ca>
- www.rdc.ab.ca
- www.gprc.ab.ca

Other online sources may also be used. Some of the more general ones may prove useful frequently. Sites specific to particular units may be mentioned in those units. As part of your research, you will have to find other sites. To get to online sources, you will need Internet access and a web browser. The assumption throughout this course is that you will be using Internet Explorer. From time to time, you will also need Adobe Acrobat Reader to view pdf files. Adobe Acrobat Reader is available as a free download at <http://www.adobe.com>. Depending on the security software in use at your school, a technician may have to do the download and installation. Check on this early and make any arrangements required to have the software installed so that it will be available when you need it.

B) SOFTWARE

Nutrition Analysis Software: Food Focus, Version 3.3, Matthew Prowse, Winnipeg, MB

C) Student Text-

Nutrition, Food, and Fitness- The Science of Wellness, 2nd Edition, by Dorothy F. West, PhD.; The Goodheart-Willcox Company, Inc.; ISBN- 1-56637-933-4

D) Teacher Resources

Teacher's Resource Guide for student text, ISBN-1-56637-936-9

Teacher's Resource Portfolio for text, ISBN- 1-56637-937-7

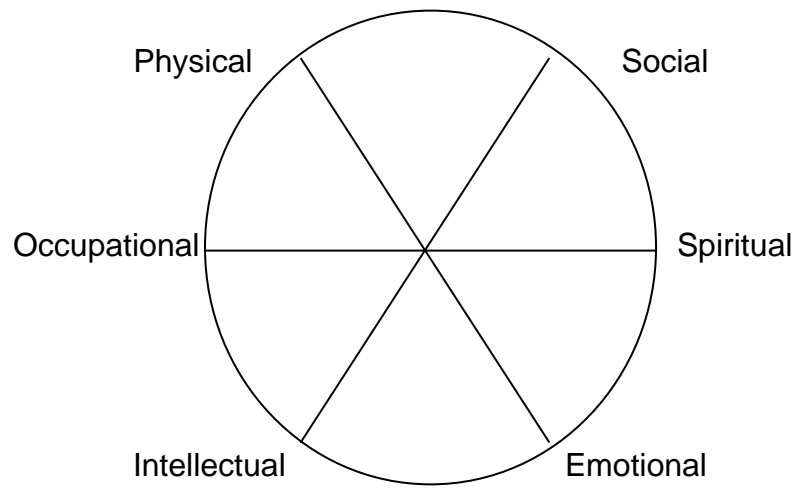
Teacher's Resource CD for text, ISBN- 1-56637-938-5

Understanding Nutrition, 10th Edition ISBN 0-534-59004-7

Health, Making Life Choices, 2nd Edition, ISBN 0-534-62226-7

Health Canada, Nutritive Value of Some Common Foods

Appendix D The Wellness Wheel



Appendix E

Personal Healthy Lifestyle Plan Assignment

Using the following outline and suggestions, evaluate your present lifestyle and record what needs to be changed to reduce your risk of future health problems. Once you have determined your risk factors, write a plan to reduce these risks.

1. Family Health History- What diseases or conditions are found in your family members? Are any of these conditions at increased risk due to lifestyle habits? What lifestyle changes can be made to reduce the risk? Where can you get the help you need to make these changes?
2. Environment- What things are you at risk of due to your environment? Consider such things as hazardous materials, UV rays, stress, second-hand smoke, communicable illnesses, allergies, etc. How can you protect yourself against the exposure to these health hazards?
3. Lifestyle Habits
 - a. Eating habits - Do you get enough of each food group as recommended in Canada's Food Guide to Healthy Eating? Do you eat a lot of processed foods, fat, salt, sugar, etc? What things affect when and what you eat – time schedule, convenience, cost? How will you improve your eating habits?
 - b. Activity level - Does your activity level help you keep a healthy body weight? How much exercise do you get each day? Compare it to the recommendations in Canada's Physical Activity Guide to Healthy Active Living. If you do not get enough exercise, what can you do to improve this part of your lifestyle?
 - c. Sleep - How much sleep do you get regularly? Do you feel tired at school or work? How much sleep do you feel you need? What may cause you to not get enough sleep? Write your plans to improve your sleeping habits if needed.
 - d. Smoking, drugs, alcohol - Is it a problem? If so, help is available? What resources can you use to get help?
 - e. Lifestyle risks - Do you wear protective equipment - helmets, safety goggles, seat belts?
4. Health Care - Do you visit the doctor and dentist regularly?

Appendix F

Diet Analysis Assignment

Step 1: Record what you eat and drink, for a period of three to seven days, into the food record charts (see below) provided to you by your teacher.

Step 2: Use the diet analysis software, nutrient value booklets, or text to determine the nutritional value of each food you ate.

Step 3: Total your nutrient intake of each nutrient for the three to seven days. Take the average of each nutrient. This is your daily average.

Step 4: Calculate your required calorie intake and RNI of the energy nutrients.

Step 5: Use vitamin and mineral charts to determine the RNI for each required nutrient.

Step 6: Compare the average amount of each nutrient you ate with the daily required amount. Record your findings on the following chart:

Nutrient	Amount Consumed (Daily Average)	Amount Required (RNI)	Difference (+ or -)
Kcalories			
Carbohydrates			
Fat			
Protein			
Vitamin A			
Thiamin			
Riboflavin			
Niacin			
Folate			
Vitamin B12			
Vitamin C			
Vitamin D			
Calcium			
Iron			
Sodium			

Step 7: Review your findings, determine the nutrients you are deficient in or have an excess amount of and investigate the health risks associated with them. Write a summary of your findings.

Food - including amount	Kcal	Prot g	Carb g	Fat g	Vit A RE	Thia mg	Ribo mg	Niac mg	Fola mg	B 12 µg	Vit C mg	Vit D µg	Calc mg	Iron mg	Sod mg
Day 1															
250 ml 2% milk	121	8	12	5	130	.09	.4	.21	12		2		298	.12	122

Appendix G

Label and Additive Assignment

Information and research from this unit are required to complete the following assignment.

Part A: Labels

Collect two food product labels from each of the four food groups in Canada's Food Guide to Healthy Eating and the "Other Food" group.

For each label complete the following:

1. Identify the common name of the product, manufacturer or distributor, net contents and serving size.
2. Identify the food group the product belongs to.
3. Compare the suggested serving size on the product label to the serving size of the food in Canada's Food Guide to Healthy Eating.
4. What "nutrition facts" are given on the label?
5. Identify any "nutrition claim" on the label.
6. List the ingredients in this product.

Part B: Additives

Using the labels you collected for Part A of this assignment, complete the following:

1. Identify the additives from the list of ingredients.
2. For each additive research the purpose for which it was used in the product.
3. Identify two other products you normally eat that may contain this additive.

Present your information in the following format and submit it with Part A of the assignment.

Food Additives

Name of Additive	Purpose for Use	Food You Found It In	Other Foods Where It Is Used

Appendix H

Sample Unit Assignments

1. N.U.T.R.I.E.N.T.S

Using the word “NUTRIENTS,” write a paragraph pertaining to good nutrition for each letter of the word. For example:

N - Nutrients are found in the foods we eat.

Submit your assignment as a word document.

2. Lactose Intolerance

Research the causes, prevalence, symptoms and dietary changes related to lactose intolerance. Include a comparison to milk allergies. Prepare a Word document and submit your paper.

3. Vitamin/Mineral Deficiencies

You have been learning about the many vitamins and minerals required by the body for various functions. Increase your knowledge in one of the four following areas by completing the topic of most interest to you:

A. Research and prepare a Word document to report on the discovery of vitamin C and its potential use in the prevention and treatment of disease today.

OR

B. Research what the WHO and UNICEF are doing to help children around the world who suffer from vitamin A deficiencies. What is their goal and what are their plans to reach it?

Investigate how vitamin A is linked to disease prevention and treatment. The following website is an excellent source of information:

<http://lpi.oregonstate.edu/infocentre/vitamins/vitaminA/index.html>

Use a Word document or PowerPoint presentation to report on your findings.

OR

C. Use the Internet to investigate some of the ways vitamin E is being used today in the prevention or treatment of disease or chronic conditions. Use a Word document or PowerPoint presentation to report on your findings.

OR

D. Although iron is required in very small amounts by the body, it is a very common nutrient deficiency. Research information regarding iron deficiencies; who is at greatest risk and why? What are the symptoms and treatment for this problem? Use a Word document or PowerPoint presentation to report.

4. Use of Dietary Supplements

Although nutrition experts tell you “food first” for your nutrition needs, dietary supplements are sold in abundance in this country. A dietary supplement provides extra nutrients in the form of pills, capsules, liquid, or powder. They may contain vitamins, minerals, fibre, protein, or other substances such as herbs. They may be single nutrients or multi-nutrient. The percentage of the daily requirement of the nutrient may also vary. Before a person takes a supplement, they should have a physical check-up to determine if one is needed. Review the information you received in this unit regarding the benefits of nutrients, their deficiencies and toxicities. Use Internet resources to examine how supplements are used in the treatment and prevention of health conditions and how they are misused. Who may need supplements? What are the benefits and dangers of taking supplements? Prepare a Word document outlining the conditions that may warrant the use of supplements in the diet and how and why they are needed.

5. Treatment of Obesity

Stomach stapling, liposuction are examples of some aggressive ways used today to treat obesity. Identify these practices and what is involved in the treatment. Comment on the use and possible risks of these practices. Submit your assignment as a Word document or a PowerPoint presentation.

6. School Health Survey

Prepare a survey of weight management issues to be taken by students in your school. Choose questions carefully on this potential sensitive topic that will give you an indication of the health status of students in your school. Conduct the survey in homeroom classes in your school and calculate the school statistics regarding weight issues in the school. How does your school compare to national statistics?

7. Benefits of Soy Products

Research the use of soy products in the prevention and treatment of chronic disease. Where can you find these products? Are there any regulations regarding their use or labelling? Are there any negative health risks to their use? Prepare a Word document or PowerPoint presentation to report your findings.

8. Glycemic Effect/Index

The benefits of the GI to health are controversial. Some believe that using the GI in meal planning will benefit people who are at risk of obesity, heart disease, or diabetes. Go to the glycemic index website at www.glycemicindex.com and read

about the significance of the GI. Form your own opinion using the knowledge you have gained so far in this course. Do you agree or disagree with the benefits listed? Rationalize your answers.

9. Nutrition for Athletes

Investigate reliable information regarding the nutritional requirements of athletes. Be careful not to use biased opinions of those who are trying to sell supplements. Use the information you find to plan a pre-game meal for an athlete getting ready to compete. Plan a post-game meal for the same athlete. Use Food Focus to evaluate the two meal plans. Submit your assignment (meal plans and nutrient analysis) in a Word document.

10. Fad Diets

There are many fad diets advertised in the media. Interview your school health nurse or a dietitian to discuss these diets. He/she will have current, reliable information about these diets. Choose one of the diets, research it and complete the following:

1. What is the name and source of the diet? Who developed it?
2. What is the philosophy behind the diet? How is it suggested you will lose weight on this diet? What proof is given? Are there any “claims” or “selling tools”? How does the information given in the diet plan compare to what you have learned from the health nurse and this course?
3. How many kcalories/day does the diet provide?
4. What is the cost of the program? Are there any hidden costs, such as purchasing supplements or exclusive products?
5. Using what you have learned about the functions of nutrients in the body, chronic health conditions and what the health nurse or dietitian has told you, evaluate the diet. What are the benefits and health risks of this diet? What would you tell a friend who is thinking about going on this diet?

11. Vegetarian Diets/Lifestyles

Prepare a one day meal plan for a vegetarian. Use the diet analysis software, nutrient value booklets or text and Internet resources to determine the nutritional value of this one day meal plan. Total the amount of each nutrient for the day. Compare the amounts in the meal plan to the recommended amount of each of the nutrients. Refer to your Dietary Reference Chart to compare the meal plan to your daily requirements. You will need to add zinc to the information since it was not included in previous assignments. Remember to adjust the required amount of iron and zinc.

Review your findings, determine the nutrients the plan is deficient in or has an excess of and investigate the health risks associated with this meal plan. Present your information in the following format followed by a written evaluation of the meal plan.

Nutrient	Amount Consumed in Meal Plan	Amount Required (RDA/AI from your previous charts and necessary adjustments)	Difference Between Meal Plan and Your RDA/AI (+ or -)
Kcalories			
Carbohydrates			
Protein			
Fat			
Vitamin A			
Thiamin			
Riboflavin			
Niacin			
Folate			
Vitamin B12			
Vitamin C			
Vitamin D			
Calcium			
Iron			
Sodium			
Zinc			

12. Eating Disorders

Design a two day diet for each of the following:

- A) A teenager consuming 2300 kcal per day
- B) A teenager consuming 850 kcal per day

Students must attempt to plan both diets around Canada's Food Guide to Healthy Eating and be within 50 kcal of the requirement noted above. Students will come to realize that it is impossible to plan a healthy diet within 850 kcal. List the foods according to meals and snacks for each day. Using Food Focus software, Internet websites or any available resources, calculate the calories for each meal, snack and the overall total for the day. Identify the food group each food belongs to. Organize your assignment in the following format. Submit a brief report (a Word document) with your meal plans explaining what you have learned from doing this assignment.

Day 1 (2300 kcal Meal Plan)

Foods	kcalories	Food Group

Day 2 (2300 kcal Meal Plan)

Foods	kcalories	Food Group

Day 1 (850 kcal Meal Plan)

Foods	kcalories	Food Group

Day 2 (850 kcal Meal Plan)

Foods	kcalories	Food Group

13. A Closer Look at Food Related Ads

Collect five food related ads. They may be food products, dietary supplements, diet products, etc. Examine the advertisements closely. For each ad:

1. Identify the product featured in the ad.
2. Tell where you found the ad (magazine, newspaper, flyer, Internet, etc.).
3. Identify the target audience (children, teens, women, adults, seniors, etc.).
4. Would the packaging of this product have any influence on the consumer? Explain.
5. Identify any psychological techniques, gimmicks, promises, etc. that are being used to encourage you to purchase it.
6. What does the ad make you believe the product will do for you? Do you believe it? Why or why not?
7. What does the ad not tell you?
8. After seeing this ad, do you want to try the product? Why or why not?

14. Food Technologies

Investigate the food technologies discussed in Unit 4 and debate the benefits and risks associated with them. Write a report for or against any one of the technologies. Present your report in a Word document or PowerPoint presentation.

15. Food Storage

Classify the following into the proper storage area. Use reference books, food product labels and any other available resources to determine the best storage area. Place a check mark in the proper storage area.

1. All foods will be used within three days. Where should I store these foods? Complete chart one.
2. All foods will be used after two weeks. Where should I store these foods for long term storage? Note: Some foods may not be purchased. Complete chart two.

1. Foods to Be Eaten Within Three Days

Food Item	Refrigerated	Frozen	Dry	Do not Purchase
Canned tomato sauce				
White bread				
Frozen bread dough				
Dry spaghetti noodles				
Ritz crackers				
Fresh tomatoes				
Potatoes				
Freezer jam				
Instant coffee				
Skim milk powder				
Leftover canned soup				
Fresh strawberries				
Apples				
Bananas				
Onions				
Dry cereal				
Oatmeal				
Dry instant rice				
Cooked rice				
Fresh chicken				
Sliced bologna				
Potato salad				
Unopened mayonnaise				
Opened salad dressing				
Opened ketchup				
Unopened fresh orange juice				
Broccoli				
Cottage cheese				
Cooked pasta				

2. Foods to Be Eaten After Two Weeks

Food Item	Refrigerated	Frozen	Dry	Do not Purchase
Canned tomato sauce				
White bread				
Frozen bread dough				
Dry spaghetti noodles				
Ritz crackers				
Fresh tomatoes				
Potatoes				
Freezer jam				
Instant coffee				
Skim milk powder				
Leftover canned soup				
Fresh strawberries				
Apples				
Bananas				
Onions				
Dry cereal				
Oatmeal				
Dry instant rice				
Cooked rice				
Fresh chicken				
Sliced bologna				
Potato salad				
Unopened mayonnaise				
Opened salad dressing				
Opened ketchup				
Unopened fresh orange juice				
Broccoli				
Cottage cheese				
Cooked pasta				

16. Food Borne Illnesses

Some bacteria and viruses that cause food borne illness are: E.coli, Salmonella, Staphylococcus, Clostridium botulinum, Campylobacter, Clostridium perfringens and hepatitis A.

Research the food borne illnesses listed above and report the following information for each:

1. Disease name and whether it is a bacteria or virus
2. Type of contamination (infection or intoxication)
3. Possible sources and foods affected
4. Symptoms
5. Incubation period
6. Treatment

17. Food Safety Poster

Prepare a food safety slogan and create a poster illustrating it. Produce your poster on a Word document on letter size paper or create a freehand drawing on Bristol board.

18. Video or Audio Interview

Interview a person in a food related career. Introduce the person and where they work.

Include these questions in your interview as well as any other questions you may have.

1. What is their job title? How long have they been doing this job?
2. What education or training did they need to get the job? Where did they get it?
3. What do they find most rewarding about their job?
4. What frustrations come with the job?
5. What would they recommend to anyone who wishes to pursue the same career?

19. Careers

Using information on nutrition, dietetics and food science careers from career profiles, Internet sites, university handbooks, former students who have taken the program, etc, prepare a project of your choice that includes the following information:

1. Chosen career path
2. Training required along with prerequisites
3. Where you can get the training
4. Length of the program
5. Cost
6. Job possibilities when completed