

# HUMAN NUTRITIONAL SCIENCES (HNSC)

## HNSC 1100 Nutrition for Healthy Living 3 cr

An introduction to nutrition and practical approaches for healthy diet and disease prevention. Not to be held with HNSC 1210.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: Enrollment in the Aboriginal Community Wellness Diploma program.

**Equiv To:** HNSC 1210

## HNSC 1200 Food: Facts and Fallacies 3 cr

This course will present facts and fallacies about food from harvest to market forms. Emphasis will be placed on technological development, consumer concerns and factors affecting nutritional quality. Current issues related to food safety and nutritional trends will also be discussed.

**Attributes:** Recommended Intro Courses

## HNSC 1210 Nutrition for Health and Changing Lifestyles 3 cr

This course addresses the relationship between nutrition and health. The focus is on healthy eating and on strategies for modifying food patterns within the context of lifestyle and culture. May not be held with HNSC 1100. Not available to students who hold credit for HNSC 2170.

**Equiv To:** HNSC 1100

**Mutually Exclusive:** HNSC 2170

**Attributes:** Recommended Intro Courses

## HNSC 2000 Research Methods and Presentation 3 cr

(Lab required) An introduction to research designs, methods and techniques, as well as the practice of disseminating results, in the context of selected determinants of health. Applications in natural and social sciences will be presented. Skills related to presenting research findings will be taught. May not be held with HMEC 2000 or HMEC 2050.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: AGRI 2400 (D) or STAT 1000 (STAT 1001) (D) or STAT 1150 (D).

**Mutually Exclusive:** HMEC 2000, HMEC 2050

**Attributes:** Written English Requirement

## HNSC 2130 Nutrition Through the Life Cycle 3 cr

Examination of nutritional needs throughout the life cycle, the nutritional concerns of different age groups and the development of healthy eating practices.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: HNSC 1210.

## HNSC 2140 Basic Principles of Human Nutrition 3 cr

The scientific principles underlying nutrient function and dietary requirements.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: (CHEM/MBIO 2700 (CHEM/MBIO 2701) or CHEM/MBIO 2730, or the former CHEM/MBIO 2770 or the former CHEM/MBIO 2360 the former CHEM/MBIO 2361)) and [(HNSC 1200 and HNSC 1210) or FOOD 2500]. Pre- or corequisites: CHEM 2720 (CHEM 2721) or CHEM 2740 or the former CHEM/MBIO 2770 or the former CHEM/MBIO 2360 (the former CHEM/MBIO 2361).

## HNSC 2150 Composition, Functional and Nutritional Properties of Foods 3 cr

Food composition, food market forms, food composition data for nutritional assessment and labelling.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: HNSC 1200 and HNSC 1210 and CHEM 1100 (CHEM 1101) (or the former CHEM 1300 or the former CHEM 1301).

## HNSC 2160 Principles of Food Preparation and Preservation 3 cr

(Lab required) Food preparation, preservation, handling and storage; quality and safety implications; scientific basis for culinary practice; use and application of equipment.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: [HNSC 1200 or HNSC 1210] and CHEM 1100 (CHEM 1101), (or the former CHEM 1300 or CHEM 1301).

## HNSC 2170 Nutrition for Health Professionals 2 cr

An examination of the fundamentals of nutrition and the relationship between nutrition and health within the context of the health professions.

The focus is on nutritional strategies used to promote health and in the treatment of common health conditions. May not be held with HYG 2370, or the former ORLB 2150, ORLB 2330, or the former PHRM 2420. This course is restricted to students registered in Nursing or Pharmacy.

**Mutually Exclusive:** HNSC 1210, HYG 2370, ORLB 2150, ORLB 2330, PHRM 2420

## HNSC 3220 Food and Nutrition Literacy Education 3 cr

Students will develop a critical understanding of the influences on food and nutrition behaviours and how to impact these positively through evidence-informed food and nutrition education strategies. May not be held with the former HNSC 3320.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: [PSYC 1200 or SOC 1000 (or the former SOC 1200)] and HNSC 2130 and HNSC 2140.

**Equiv To:** HNSC 3320

## HNSC 3260 Food Quality Evaluation 3 cr

(Lab required) Discussion of quality concepts and quality assurance principles for food applications, and of methods for evaluation of sensory, chemical and physical aspects of quality. The course will include food industry visits and demonstrations of food testing techniques.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: A minimum grade of D in AGRI 2400 or STAT 2000 or STAT 2001 and a minimum 60 credit hours completed (or a minimum 30 credit hours completed from a second degree program).

## HNSC 3300 Vitamins and Minerals in Human Health 3 cr

The physiological importance of vitamins and minerals in the human body, including factors affecting dietary requirements, metabolism and roles in disease progression and prevention.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: [(CHEM/MBIO 2750 and CHEM 2740 (or the former CHEM/MBIO 2780)) or (CHEM/MBIO 2710 (CHEM/MBIO 2711) and CHEM 2720 (CHEM 2721) (or the former CHEM/MBIO 2370 (the former CHEM 2371))) and HNSC 2140 and [BIOL 1412 (BIOL 1413) or BIOL 2420 (BIOL 2421)].

## HNSC 3310 Macronutrients and Human Health 3 cr

Macronutrient functions and metabolic roles in human health, including the prevention and pathogenesis of various diseases.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: [CHEM/MBIO 2750 and CHEM 2740 (or the former CHEM/MBIO 2780) or CHEM/MBIO 2710 and CHEM 2720 (or the former CHEM/MBIO 2370 (CHEM 2371))] and HNSC 2140 and [BIOL 1412 (BIOL 1413) or BIOL 2420 (BIOL 2421)].

**HNSC 3330 Ingredient Technology for Designed Foods 3 cr**

Chemical and functional properties of ingredients and their application in designed foods: low fat, low calorie, high fibre, high energy and innovative food products.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: (CHEM/MBIO 2700 (CHEM/MBIO 2701) or CHEM/MBIO 2730, or the former CHEM/MBIO 2770 or the former CHEM/MBIO 2360 (the former CHEM/MBIO 2361)) and [HNSC 2150 or FOOD 2500]. Pre- or corequisites: CHEM 2720 (CHEM 2721) or CHEM 2740 or the former CHEM/MBIO 2770 or the former CHEM/MBIO 2360 (the former CHEM/MBIO 2361).

**HNSC 3342 Management for Food and Nutrition Professionals 3 cr**

Management strategies and cost control principles as applied to food and nutrition organizations. Topics include leadership, organizational design, teamwork, human resource management, performance improvement, cost management, and the interpretation of financial statements. May not be held with HNSC 3340.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: A minimum grade of D in [HNSC 2150 or HNSC 2160] and [GMGT 1010 or ABIZ 1000].

**Equiv To:** HNSC 3340

**HNSC 3350 Culture and Food Patterns 3 cr**

(Lab required) A study of the cultural, sociological and psychological aspects of food patterns and behaviour.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: (PSYC 1200 or SOC 1000 or the former SOC 1200) and (HNSC 1200 or HNSC 1210).

**HNSC 3400 Nutrition Assessment and Counselling 3 cr**

(Lab required) Introduction to the fundamentals of professional dietetic practice, nutrition assessment, interviewing and counselling as part of the nutrition care process. For students registered in the Human Nutritional Sciences degree.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Pre- or co-requisite: HNSC 3310 (D).

**HNSC 3870 Food Geographies 3 cr**

This course provides a critical examination of the geographies of food at a variety of scales, from the body to the global. The course focuses on themes in three interconnected areas: 1) food production and the global food system from farm to plate including agribusiness and alternative food production and distribution models; 2) food consumption habits and beliefs and foodways as geographically contingent material culture; and 3) food (in) security and its relationship to health and wellbeing. This course is cross-listed with GEOG 3870.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: GEOG 1280, GEOG 1281, GEOG 1200 or HNSC 1200, or permission of the department head.

**Equiv To:** GEOG 3870

**HNSC 4100 Current Issues in Food and Human Nutrition 3 cr**

Integration of current issues in food and human nutritional sciences. Emphasis on ethics, equity, economics, and professional approaches to challenges in food and human nutritional sciences using case studies, team work, and scientific communication to specialists and the public. This is a capstone course restricted to students in year 4 of the B.Sc. Human Nutritional Sciences degree programs. May not be held with FOOD 4100 or AGRI 4100 or the former HNSC 4160.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: HNSC 2000 (or the former HMEC 2000) and Faculty approval.

**Equiv To:** HNSC 4160

**Mutually Exclusive:** AGRI 4100, FOOD 4100

**HNSC 4120 Senior Thesis 3 cr**

The preparation and presentation of a report based on a survey of the literature or on a laboratory investigation of an approved topic. Application required. Enrolment limited. Not to be held with HNSC 4122 or HNSC 4600.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: Students must be registered in their final year of Human Nutritional Sciences program or the Minor in Human Nutrition and Metabolism.

**Mutually Exclusive:** HNSC 4122, HNSC 4600

**HNSC 4122 Research Project in Human Nutritional Sciences 6 cr**

A research project in any aspect of human nutritional sciences, chosen in consultation with the supervising faculty member. A written report and a poster or oral presentation required at the end of the project. Students must be registered in their final year of Human Nutritional Sciences program. Application required. Enrolment limited. May not be held with HNSC 4120 or HNSC 4600.

**Mutually Exclusive:** HNSC 4120, HNSC 4600

**HNSC 4140 Quantity Food Production and Management 3 cr**

(Lab Required) Menu planning. Food costing. Experience in standard methods of institutional food production and service.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: HNSC 3342 (D) and a valid Food Handlers Certificate.

**HNSC 4260 Selected Topics in Human Nutrition 3 cr**

Recent developments in human nutrition research.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: consent of instructor.

**HNSC 4270 Sensory Evaluation of Food 3 cr**

(Lab Required) Sensory perception, principles of the sensory analysis of food, requirements for sensory testing, test methods, selection and training of panelists, statistical analysis and interpretation of data.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: A minimum grade of D in AGRI 2400 or STAT 2000 or STAT 2001 and a minimum 60 credit hours completed (or a minimum 30 credit hours completed from a second degree program).

**HNSC 4280 Food Product Development 3 cr**

This course will help the student gain an understanding of the product development procedure as it relates to the food industry. Emphasis will be on application of basic knowledge of foods and food processing in designing a new product. May not be held with FOOD 4510.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: MKT 2210 and [ABIZ 1000 or GMGT 1010] and [AGRI 2400 or STAT 2000 or STAT 2001] and [FOOD 3010 or HNSC 3330].

**Equiv To:** FOOD 4510

**HNSC 4290 Food, Nutrition and Health Policies 3 cr**

Principles and applications of policies, regulations and legislation in the areas of food and health that address nutrition and health problems of populations.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: HNSC 2000 (or the former HMEC 2000 or the former HMEC 2050) (D) and HNSC 2130 (D).

**HNSC 4300 Community Nutrition Intervention 3 cr**

Principles of planning and evaluating nutrition related interventions. Examples of community needs assessments, program planning strategies and types of program evaluation will be examined.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: HNSC 3220 (or the former HNSC 3320).

**HNSC 4310 Nutrition and the Elderly 3 cr**

The role of nutrition in health promotion and disease prevention during aging.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Pre- or Corequisite: HNSC 2140

**HNSC 4340 Maternal and Child Nutrition 3 cr**

The role of nutrition in normal human development from conception through childhood.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Pre or Corequisite: HNSC 2140.

**HNSC 4350 Nutrition in Exercise and Sport 3 cr**

The application of nutritional regimens to meet exercise requirements and improve athletic performance. Current practices and recommendations for different types of sports will be examined.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: A minimum 60 credit hours and a C in HNSC 1210 and [BIOL 1412 or KPER 3470].

**HNSC 4362 Nutrition Option Practicum 6 cr**

Practical applications of nutrition principles in a variety of nutrition-related field placements in the community. This course is open to students in 3rd or 4th year of the Human Nutritional Sciences degree program. Application to the department is required. Limited enrolment.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisite: HNSC 2000 (or the former HMEC 2000). Pre or co-requisite: HNSC 3220 (or the former HNSC 3320).

**HNSC 4364 Foods Industry Option Practicum 6 cr**

This course involves supervised application of food quality, safety, and management principles in a commercial or government setting. Requirements include 280 hours of work related to the field experience. Application to Department is required. Limited enrolment. This practicum course is to be completed in the final year of the Food Industry Option.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: HNSC 3260 (D) and HNSC 3330 (D) and FOOD 4150 (D) and [GMGT 1010 or ABIZ 1000] (D).

**HNSC 4500 Clinical Nutrition I 3 cr**

An introduction to the principles of patient care in the hospital settings. Students will gain theoretical and practical knowledge to assess and apply recommendations and guidelines to specific clinical disease states. May not be held with the former HNSC 4320.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Pre or corequisites: HNSC 3220 (or the former HNSC 3320), HNSC 3310, HNSC 3300 and HNSC 3400.

**Equiv To:** HNSC 4320

**HNSC 4540 Functional Foods and Nutraceuticals 3 cr**

This course will examine the bioactive components of functional foods and nutraceuticals, their sources, chemistry, process technology, efficacy, safety and regulation. Also offered as FOOD 4540. May not be held with FOOD 4540.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Prerequisites: CHEM/MBIO 2730 and CHEM 2740 (or the former CHEM/MBIO 2770) or CHEM/MBIO 2700 (CHEM/MBIO 2701) and CHEM 2720 (CHEM 2721) (or the former CHEM/MBIO 2360 or the former CHEM/MBIO 2361).

**Equiv To:** FOOD 4540

**HNSC 4550 Clinical Nutrition II 3 cr**

Practical application of patient care: Nutritional assessment and dietary management of acute and chronic disease states. In this interactive course, students will build upon the basic principles covered in the HNSC 4500 (Clinical Nutrition I) integrating the theory with practical practice. May not be held with the former HNSC 4320.

**PR/CR: A minimum grade of C is required unless otherwise indicated.**

Co-requisite: HNSC 4500.

**Equiv To:** HNSC 4320

**HNSC 4600 Practice-based Research in Human Nutritional Sciences 3 cr**

A practice-based research project for students pre-selected into the Manitoba Partnership Dietetic Education Program. Enrolment limited to pre-selected students; to be taken in the Winter term in the same year that their Dietetic Internship starts. Departmental approval required. May not be held with HNSC 4120 or HNSC 4122.

**Mutually Exclusive:** HNSC 4120, HNSC 4122