

HUMAN NUTRITIONAL SCIENCES, B.SC. - SECOND DEGREE PROGRAM

Overview/Entrance Requirements

Students majoring in Human Nutritional Sciences (HNS) will be admitted to the 4-year degree program, the second-degree program, or the Human Nutritional Sciences/Culinary Arts program. Students in the 4-year degree program must choose from the Nutrition Option, the Foods Option, or the Food Industry Option.

The educational requirements to qualify for a dietetic practicum and membership with the College of Dietitians of Manitoba (CDM) or dietetic colleges in other Canadian provinces may be met within the Second Degree program. For those intending to apply for a dietetic practicum, the Second Degree's Dietetics Concentration (p. 1) program meets the course requirements to obtain the B.Sc. in Human Nutritional Sciences, but not all the other supporting course requirements, for example, psychology/sociology, humanities or social sciences, microbiology, research methods, communication arts, basic principles of management and counselling. Check with an Academic Advisor to review the supporting course requirements from previous academic work. Students should review Accreditation Canada, EQual Program (<https://accreditation.ca/assessment-programs/health-education-accreditation/programs/>) website for a listing of accredited post-degree practicum options in Canada.

Students must complete 60 credit hours while enrolled in the second degree program. If any of the required courses have been completed in the previous degree, free electives must be chosen to meet the 60 credit hour requirement. Students are not required to satisfy the Written English requirement. Estimated time to completion based on prerequisites is 3 years.

Degree Requirements

Course	Title	Hours
AGRI 2400	Experimental Methods in Agricultural and Food Sciences ¹	3
One of the following: ²		3
BIOL 1410	Anatomy of the Human Body (or)	
BIOL 1020 & BIOL 1030	Biology 1: Principles and Themes and Biology 2: Biological Diversity, Function and Interactions	
BIOL 1412	Physiology of the Human Body ²	3
CHEM 1100	Introductory Chemistry 1: Atomic and Molecular Structure and Energetics	3
CHEM 1130	Introduction to Organic Chemistry ³	3
or CHEM 1110	Introductory Chemistry 2: Interaction, Reactivity, and Chemical Properties	
CHEM/MBIO 2730	Elements of Biochemistry 1 ⁴	3
CHEM 2740	Introduction to the Biochemistry Laboratory ⁵	3
CHEM/MBIO 2750	Elements of Biochemistry 2 ⁶	3
HNSC 2140	Basic Principles of Human Nutrition	3

HNSC 2160	Principles of Food Preparation and Preservation	3
One of the following concentrations:		30
Dietetics		
Human Nutrition		
Foods		
Total Hours		60

- STAT 2000 (Basic Statistical Analysis 2) can be substituted for AGRI 2400 (Experimental Methods in Agricultural and Food Sciences).
- Students selecting BIOL 1020 and BIOL 1030 are not required to complete BIOL 1410. Under required courses, students must take BIOL 1412. Students can substitute both BIOL 1410 and BIOL 1412 with both BIOL 2410 and BIOL 2420.
- Students can hold CHEM 2100 (Organic Chemistry 1: Foundations of Organic Chemistry) in place of CHEM 1130 (Introduction to Organic Chemistry).
- Under required courses, students can use CHEM 2700/MBIO 2700 (Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy) in place of CHEM 2730/MBIO 2730 (Elements of Biochemistry 1).
- Under required courses, student can use CHEM 2720 (Principles and Practices of the Modern Biochemistry Laboratory) in place of CHEM 2740 (Introduction to the Biochemistry Laboratory).
- Under required courses, students can use CHEM 2710/MBIO 2710 (Biochemistry 2: Catabolism, Synthesis, and Information Pathway) in place of CHEM 2750/MBIO 2750 (Elements of Biochemistry 2).

Concentrations

Dietetics ¹

Course	Title	Hours
HNSC 3220	Food and Nutrition Literacy Education	3
HNSC 3300	Vitamins and Minerals in Human Health	3
HNSC 3310	Macronutrients and Human Health	3
HNSC 3342	Management for Food and Nutrition Professionals	3
HNSC 3400	Nutrition Assessment and Counselling	3
HNSC 4140	Quantity Food Production and Management	3
HNSC 4300	Community Nutrition Intervention	3
HNSC 4500	Clinical Nutrition I	3
HNSC 4550	Clinical Nutrition II	3
Free Electives - credit hours (0-3) depend on BIOL course selections ^{2,3}		3
Total Hours		30

- In order to meet PDEP Accreditation Standards, Second Degree students intending to apply for Dietetic Practicum would also need to complete the following Dietetics Supporting Courses:
 - ABIZ 1000 or GMGT 1010
 - HNSC 2000
 - HNSC 2130 or HNSC 2150
 - HNSC 3350
 - HNSC 4100
 - HNSC 4310 or HNSC 4340
 - FOOD 4150 or MBIO 1220 or MBIO 1010
 - Psychology or Sociology (3-6 credit hours)

- ² Students selecting BIOL 1020 and BIOL 1030 are not required to complete BIOL 1410. If BIOL 1020 and BIOL 1030 are taken, the additional 3 credit hours will be used towards free electives. Under required courses, students must take BIOL 1412. Students can substitute both BIOL 1410 and BIOL 1412 with both BIOL 2410 and BIOL 2420.
- ³ Students can apply for the Cooperative Education Program. Two work terms are required to graduate with Co-op designation. Co-op courses (3 credit hours each) are used towards free electives.

Human Nutrition

Course	Title	Hours
HNSC 3220	Food and Nutrition Literacy Education	3
HNSC 3300	Vitamins and Minerals in Human Health	3
HNSC 3310	Macronutrients and Human Health	3
HNSC 4300	Community Nutrition Intervention	3
or HNSC 4500	Clinical Nutrition I	
Restricted Electives ¹		12
Free Electives - credit hours (3-6) depend on BIOL course selections ^{2,3}		6
Total Hours		30

- ¹ Restricted electives can be either AGRI 2300 and/or any 3000/4000 level HNSC courses, not already required as part of the degree.
- ² Students selecting BIOL 1020 and BIOL 1030 are not required to complete BIOL 1410. If BIOL 1020 and BIOL 1030 are taken, the additional 3 credit hours will be used towards free electives. Under required courses, students must take either BIOL 1412. Students can substitute both BIOL 1410 and BIOL 1412 with both BIOL 2410 and BIOL 2420.
- ³ Students can apply for the Cooperative Education Program. Two work terms are required to graduate with Co-op designation. Co-op courses (3 credit hours each) are used towards free electives.

Foods

Course	Title	Hours
HNSC 2150	Composition, Functional and Nutritional Properties of Foods	3
HNSC 3260	Food Quality Evaluation	3
or HNSC 4270	Sensory Evaluation of Food	
HNSC 3300	Vitamins and Minerals in Human Health	3
or HNSC 3310	Macronutrients and Human Health	
HNSC 3330	Ingredient Technology for Designed Foods	3
HNSC 3350	Culture and Food Patterns	3
HNSC 4290	Food, Nutrition and Health Policies	3
HNSC 4540	Functional Foods and Nutraceuticals	3
Program Elective ¹		3
Free Electives - credit hours (3-6) depend on BIOL course selections ^{2,3}		6
Total Hours		30

- ¹ The Program Elective required can be from either the Asper School of Business (any level), or any 3000 or 4000 level FOOD (Food Science) courses (note some FOOD courses are co-taught with HNSC courses). Students must have the correct pre-requisites for the Program Elective and need to plan accordingly.

- ² Students selecting BIOL 1020 and BIOL 1030 are not required to complete BIOL 1410. If BIOL 1020 and BIOL 1030 are taken, the additional 3 credit hours will be used towards free electives. Under required courses, students must take BIOL 1412. Students can substitute both BIOL 1410 and BIOL 1412 with both BIOL 2410 and BIOL 2420.
- ³ Students can apply for the Cooperative Education Program. Two work terms are required to graduate with Co-op designation. Co-op courses (3 credit hours each) are used towards free electives.

Cooperative Education Program

Co-operative Education is a process that alternates periods of academic study with periods of paid work experience relating to the co-op student's area of study. Through the Co-operative Education Program, full-time, paid work terms provide the students with practical experience and provide guidance for further career specialization or further academic study.

Students secure full-time, paid co-op work placements with a faculty-approved employer(s) that are each a minimum of 420 hours, to be completed within 4 months. The faculty supports students on both a group and individual basis to determine their learning goals for the work placement. Students are expected to attend an orientation session as well as participate in a series of self-evaluations under the guidance of a sessional instructor. Prior to starting each work term, students will register in AGRI 2002 (first placement), AGRI 3002 (2nd placement), and AGRI 4002 (3rd placement) within the term that their co-op placement will take place and pay the fees. Students must submit a reflective written report at the end of the work term and are evaluated for both overall participation and the report on a Pass/Fail basis.

Degree Program

Admission: Students who have been admitted to an undergraduate program within the faculty are eligible to apply to the Co-operative Education Program. Students are advised that satisfying the entrance requirements does not guarantee a place in the Co-operative Education Program. Full admission into the Program is dependent upon a student's ability to secure a work term placement. Normally, the first work term would take place at the end of the second academic year allowing students to pursue professional development activities in year one. However, with approval of the Faculty and employer, the first work term could commence after the first year of a four-year or second-degree program. Students admitted into the Program must maintain good academic standing (minimum DGPA of 2.0).

Employment Term Requirements: The Co-operative Education Program requires the student to secure two full-time, paid co-op work terms (minimum of 420 hours each) with a faculty approved employer(s). A third work term is optional. Prior to starting the work term, students are required to register in the appropriate Agricultural and Food Sciences Co-operative Education Work Term Course within the set deadlines and pay the fee. Successful completion of a work term includes participating in a mid-work term interview with the Co-op Coordinator and completion of a written work term report at the end of each work term. Students who receive a passing grade on the work term reports for all required work terms graduate with the Co-operative Education designation acknowledged on their parchment.

During a work term, a co-op student may take a maximum of one additional course worth up to six credit hours for a total of nine (9) credit hours. Co-op credit hours earned can be used towards free elective requirements in any degree program.

Diploma Program

Admission: To be considered for admission in the Cooperative Education Program, a first year diploma student must have a minimum Degree GPA of 2.0, and have completed at least 24 credit hours of studies by the end of the academic year of application.

Students are advised that satisfying the entrance requirements does not guarantee a place in the Cooperative Education Program. Full admission into the program is dependent upon the student receiving a job placement through the Cooperative Education Office.

Employment Term Requirements: The student will receive three credits for completing the Cooperative Education Program. Students are required to register in the employment term course and pay the fee prior to starting the employment term.