

Faculty of Human Ecology

General Office

209 Human Ecology Building

Telephone: (204) 474- 8508

Fax: (204) 474-7592

E-mail: h_ecology@umanitoba.ca

Website: umanitoba.ca/faculties/human_ecology/

Dean: Gustaaf P. Sevenhuysen

Associate Dean: Michael Eskin

Academic Staff: Please refer to the Faculty website at http://www.umanitoba.ca/faculties/human_ecology/

Business Manager: Carol Falk

Student Affairs Coordinator: Brigitte Wiebe

Academic Advisor: Dianne Mutuc

Chapter Contents

SECTION 1: Degree Programs Offered

- 1.1 Degree Programs
- 1.2 Available Minors
- 1.3 Available Options, Concentrations and Streams
- 1.4 Professional Designations

SECTION 2: Admission Requirements

SECTION 3: Faculty Academic Regulations

- 3.1 Prerequisite, Corequisite, and Course Availability: Definitions
- 3.2 Scholastic Standards
- 3.3 Part-time Students
- 3.4 Repeating Courses
- 3.5 Challenge for Credit
- 3.6 Transfer of Credit
- 3.7 Appeals of Academic Regulations
- 3.8 Dean's Honour List
- 3.9 Degree with Distinction
- 3.10 Work Permit for Study Purposes
- 3.11 Release and Indemnification Forms
- 3.12 Written English and Mathematics Requirements

SECTION 4: Program and Graduation Requirements

- 4.1 Advisement
- 4.2 Faculty Program Requirements
- 4.3 Program Electives
- 4.4 Family Social Sciences Program
- 4.5 The After Degree Program in Family Social Sciences
- 4.6 The Family Social Sciences Minor
- 4.7 Human Ecology Program
- 4.8 Human Nutritional Sciences Program
 - 4.8.1 Pre-Professional Preparation
- 4.9 Minor in Human Nutrition and Metabolism
- 4.10 Second Degree Program in Human Nutritional Sciences
- 4.11 Interdisciplinary Health Degree Program
 - 4.11.1 Health Sciences Degree
 - 4.11.1 Health Studies Degree
- 4.12 Textile Sciences Program
 - 4.12.1 Product Development Stream
 - 4.12.2 Textile Development Stream
- 4.13 Textile Sciences Minor

- 4.14 Interfaculty Option in Aging
- 4.15 The Minor in Management
- 4.16 The Voluntary Minor

SECTION 5: Course Descriptions

- 5.1 Family Social Sciences
 - 5.2 General Human Ecology
 - 5.3 Human Nutritional Sciences
 - 5.4 Interdisciplinary Health Degree Program
 - 5.5 Textile Sciences
-

SECTION 1: Degree Programs Offered

1.1 Programs

Program/Degree	Years to Complete	*Total Credit Hours
Bachelor of Health Sciences	4*	120
Bachelor Health Studies	4*	120
Bachelor of Human Ecology	4*	120
Bachelor of Human Ecology (Family Social Sciences)	4*	120
The After Degree Program in Family Social Sciences (Bachelor of Human Ecology)	2**	60
Bachelor of Science (Human Nutritional Sciences)	4*	120
Second Degree Option in Human Nutritional Sciences	2**	60
Bachelor of Science (Textile Sciences)	4*	120 (123 for Eng. Sci. option)

*This includes one year (30 credit hours) of study in University 1.

**Approximate as prerequisites must be met in order to progress.

1.2 Available Minors

Family Social Sciences Minor

Human Nutrition and Metabolism Minor
Textile Sciences Minor

1.3 Available Options, Concentrations and Streams

Family Social Sciences Options

Aging Option
Child and Adolescent Development Option
Family Economic Health Option
Family Violence and Conflict Resolution Option
Social Development Option

Human Nutritional Sciences Options and Concentrations

Foods Option
Food Industry Option: Food Industry Management Concentration; Food Product Development Concentration; Quality Assurance Concentration
Nutrition Option

Second Degree in Human Nutritional Sciences:

Dietetics Focus; Foods Focus; Human Nutrition Focus

Textile Sciences Streams

Product Development Stream

Textile Development Stream: Engineering Sciences Option; Exercise and Sports Science Option; Microbiological Sciences Option

The Interfaculty Option in Aging

1.4 Professional Designations

Graduates of the Integrated Human Ecology and Education program are eligible to receive the professional certificate to teach at any level (K-12) in Manitoba providing all standards are met as established by the Province of Manitoba. See the Faculty of Education chapter for more details.

Graduates from the Human Nutritional Sciences program who have completed the Dietitians of Canada (DC) accredited undergraduate degree with courses as stipulated by DC may apply for a dietetic internship either through Pre-Selection by the Manitoba Partnership Program (MPP) or by application to dietetic internship programs in the final year of their degree or after completion of their degree.

Home economists in Manitoba, and other provinces, are regulated by legislation. Graduates may apply to the Manitoba Association of Home Economists (MAHE) for interim professional home economist (IPHE) status, and subsequently qualify as a professional home economist (PHEC).

SECTION 2: Admission Requirements for the Faculty of Human Ecology

Admission requirements are described in an applicant information bulletin that is available together with application deadline dates and forms from the Admissions Office, Enrolment Services, 424 University Centre. Detailed admission information is posted on the university website: http://www.umanitoba.ca/student/admissions/application/deadlines/human_ecology/.

General Entrance Requirements to the Faculty of Human Ecology: A minimum adjusted grade point average (AGPA) of 2.0 in at least 24 credit hours of University 1, including 6 credit hours from Arts and 6 credit hours from Science to total 12 credit hours, plus 12-18 credit hours of other University 1 courses, for a total of 24-30 credit hours. Students must complete at least 6 more credit hours of Arts or Science courses once admitted to the Faculty.

Other requirements for university study

High school prerequisites required for University level courses in certain programs: Mathematics 40S (pre-calculus or applied) and Chemistry 40S are required for the science requirements in Human Nutritional Sciences, the Interdisciplinary Health program, and textiles courses in Textile Sciences. Students who consider subscribing to the Engineering Sciences option in Textile Sciences must have pre-calculus Mathematics 40S, Physics 40S, and Chemistry 40S. Students planning to take BIOL 1020 for any program must have Biology 40S and any Grade 12 Mathematics course.

Minimum Adjusted GPA for consideration: 2.0.

The written English and Mathematics requirements are satisfied by required courses HMEC 2030 and STAT 1000 within the Human Ecology program. HMEC 2030 will be available to students upon admission to the Faculty of Human Ecology.

For students wishing to choose the focused approach for entry to the Faculty of Human Ecology, the course requirements for each of the programs or areas of concentration offered by the Faculty of Human Ecology are described in the U1 Start Book found at <http://umanitoba.ca/student/u1/start-book/index.html>.

SECTION 3: Faculty Academic Regulations

The provisions of the chapter, General Academic Regulations and Requirements, and the chapter, University Policies, apply to all students. In addition, the Faculty of Human Ecology has regulations and requirements, published below, that apply specifically to its students.

3.1 Prerequisite, Corequisite, and Course Availability: Definitions

Prerequisite: If a course is prerequisite to a second course, the prerequisite must be met in order to continue in the second course. The department giving the second course may require a minimum grade of 'C' in the first course to register in the second course. Some inactive (legacy) courses

may be used as prerequisites. Please check with an Academic Advisor in Human Ecology.

Corequisite: If a first course is a corequisite to a second course, the first course (unless previously completed) must be taken in the same term as the second course.

Course Availability: Not all courses listed in this Calendar are offered every year. Students are referred to the on-line calendar for courses offered in the year. Human Ecology courses at the 3000 and 4000 level are available only to students registered in the Faculty of Human Ecology or one of the minors or options associated with the Faculty. Courses at the 3000 and 4000 level may be taken with written permission from an Academic Advisor as long as there is space.

3.2 Scholastic Standards

Graduation and Grade Point Average

To graduate, a student must have passed 120 credit hours acceptable for credit in the current degree program and have obtained a minimum of 240 quality points. This is equivalent to a Degree Grade Point Average of 2.0. A pass indicates a grade of 'D' or better. A student's Degree Grade Point Average (DGPA) will be determined from the number of effective courses which apply at a particular stage. The effective courses consist of all courses passed, in addition to all failures which have not been cleared, or substituted for, in the students record. A maximum of 150 credit hours (25 courses or the equivalent) may be attempted in order to obtain the 120 credit hours. Effective for the admissions cycle beginning September 2009, to graduate, students in the Interdisciplinary Health Program (IHP) must attain a Degree Grade Point Average of 2.5 (300 quality points on 120 credit hours) on graduation and meet the probation standards as stated below.

Assessment

The status of each student will be assessed in May of each year in which a student is registered.

Probationary Standing

Students must achieve or exceed the following standards at the specified stages in their academic careers. Failure to obtain the standard results in probation. Once placed on probation, students who fail to meet the appropriate performance level at the next assessment following the next registration will be academically suspended. A student is not permitted to be on probation for two consecutive years.

Probationary Standards

Effective Credit hours	Minimum DGPA
24-30 hours	1.80
33-60 hours	1.85
63-90 hours	1.90
93-117 hours	1.95
120+ hours	2.00

Probationary Standards – Interdisciplinary Health Program

Effective Credit hours	Minimum DGPA
24-30 hours	2.00
33-60 hours	2.20
63-90 hours	2.40
93-117 hours	2.50
120+ hours	2.50

Suspension

Suspended students must remain out of the Faculty of Human Ecology for one academic year from the date of suspension and must apply for reinstatement at the Admissions Office no later than May 1.

Where mathematically possible for a suspended student to complete the degree by repeating failed courses, a suspended student shall be automatically reinstated after remaining out of the faculty for one calendar year, or by achieving a degree GPA above the probationary standard.

Suspension (All Attempts Used)

Where it is mathematically impossible for a student to complete the degree by repeating failed courses, a suspended student, after remaining out of the faculty for one calendar year, may attempt reinstatement. By completing at least 12 credit hours in one term with a minimum 'D' grade in all courses and a term grade point average of at least 2.0, the student will be reinstated. The student will start the program afresh, with previous grades of 'C' or better applicable to the program.

3.3 Part-time Students

The maximum time allowed for completion of the degree is 10 years. After completion of 24 credit hours, part-time students will be evaluated each May and must conform to the minimum performance levels.

3.4 Repeating Courses

A student may repeat any course for the purpose of attaining a better grade. The latest registration of a repeated course will count in GPA calculations. There are no supplemental examinations for students who have failed final or deferred examinations.

3.5 Challenge for Credit

A student wishing to challenge a course for credit should contact an Academic Advisor. Letter grades are granted upon completion of the course that is challenged for credit. A list of courses for challenge is available in the General Office. An application is required.

3.6 Transfer of Credit

See the chapters on Admissions and Academic Regulations and Requirements at the beginning of this *Calendar*. Students from faculties other than University 1 or from other institutions must make an appointment with an Academic Advisor by the end of their first academic year to arrange for transfer of credit.

3.7 Appeals of Academic Regulations

The Faculty Committee on Student Standing considers petitions from students who request special consideration with respect to rules and regulations governing their programs of study and qualification for graduation.

3.8 Dean's Honour List

Eligible students who achieve term Grade Point Averages of 3.5 or higher in at least 12 credit hours per term will be included in the Deans Honour List.

3.9 Degree With Distinction

Students who graduate with a degree GPA of 3.75 and higher will receive a degree with distinction.

3.10 Work Permit for Study Purposes

International students who are registering for courses or programs that require work placement must obtain a valid **Work Permit**, in addition to maintaining a valid Study Permit. Work placement includes, but is not limited to, any **paid or unpaid** practicum, internships, work experience, field placement, and co-op programs that are a required component for the completion of their degree, diploma or certificate. Please contact your program advisor or the International Centre for Students for further information.

3.11 Release and Indemnification Forms

In elective courses, students may be required to sign a release form for off-campus activities.

3.12 Written English and Mathematics Requirements

The written English and Mathematics requirements are satisfied by required courses HMEC 2030 and STAT 1000 within the Human Ecology program. HMEC 2030 will be available to students upon admission to the Faculty of Human Ecology.

SECTION 4: Program and Graduation Requirements

Within an overall health promotion orientation, the mission of the Faculty of Human Ecology is to sustain, develop and transmit knowledge that supports individuals and their interactions in families and communities as they enhance their quality of life and improve their physical and social environments. Our teaching and research integrates both basic and applied sciences, incorporating innovative technologies and emergent areas of knowledge. The Faculty of Human Ecology contributes to the health of people in Manitoba, Canada and elsewhere by promoting good health. This health promotion contribution is distinct from the treatment of ill health. The Faculty uses the WHO (World Health Organization) definition

of health as the framework for planning and activities: *A state of complete physical, mental and social well-being and not merely the absence of disease or infirmity.* The Faculty uses the Ottawa Charter definition of health promotion: *The process of enabling people to increase control over, and to improve, their health (Ottawa Charter for Health Promotion, 1986).*

Programs in the Faculty of Human Ecology are specialized to meet the needs of students, employers and society. Scholarship, learning and research range from metabolic and clinical aspects to psychological, behavioural and community aspects. The Faculty's work extends along the continuum from cellular and biochemical aspects to health related products and policies. Study in the Faculty in one of seven undergraduate programs offers background that can lead to career opportunities in business and industry, dietetics and institutional administration, education, social services, government and research. We are one of the founding units of the University of Manitoba; our graduates have contributed to improving human health and well-being locally, nationally, and internationally for 95 years.

Students entering the Faculty will select one of the following six programs:

- Family Social Sciences Program
- Health Sciences Program
- Health Studies Program
- Human Ecology Program
- Human Nutritional Sciences Program
- Textile Sciences Program

In order to qualify for a degree, students must complete the 120 credit hours (123 for TS, Eng. Sci. option) specified for the selected program. Elective choices provided in each program can permit students to transfer between them; however, this opportunity decreases as students progress. Students who transfer to another program must meet the full requirements of that program. There is a quota in effect for intake to each program per academic year. The quota may affect movement into a program after the September intake.

4.1 Advisement

The Faculty will provide entering students with orientation information and will refer a student to a program advisor if the student requests. The program advisor will be a Faculty member from the student's department or program. Individual programs of study for returning students will be planned in consultation with departmental representatives at sessions scheduled in March of each year. All returning students in the Faculty of Human Ecology must submit a program plan for the succeeding year before the end of the Winter term.

4.2 Faculty Program Requirements

The following are the guidelines for the program requirements in the faculty. The courses outlined for each program in the sections which follow, meets these basic requirements.

Admitted in September 2005 or Later:

- A faculty core of 9 credit hours consisting of:

Course No.		Credit Hours
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 2050	Introduction to Research in Human Ecology	3
HMEC 3100	Communication for Professional Practice	3

- Plus a minimum of 51 additional credit hours within the faculty;
- Plus a minimum of 30 additional credit hours outside the faculty of which at least 6 credit hours must be from the Faculty of Science and six from the social sciences;
- Plus a minimum of 12 additional credit hours of free electives leading to a degree requirement of 120 (123) credit hours.

Notes:

1. Students in the Interdisciplinary Health Program complete PSYC 2250 in lieu of HMEC 2050 and may choose HMEC 3100 as an elective.

2. Students admitted before September, 2005 and graduating after May, 2005, will make the following program adjustments because of the deletion of the former 028.408 (HMEC 4080) as a degree requirement.

- Family Social Sciences students must complete an additional 3 credit hours of Faculty electives at the 3000 or 4000 level.
- Human Ecology program students must complete an additional 3 credit hours of Faculty electives.
- Human Nutritional Sciences students must complete an additional 3 credit hours of free electives.

- Textile Sciences students must complete an additional 3 credit hours of free electives.

4.3 Program Electives

Courses within each program fall into one of three categories:

- Department electives must be chosen from within the program department.
- Outside electives must be chosen from a faculty other than Human Ecology.
- Free electives may be chosen from within or outside the Faculty of Human Ecology.

4.4 Family Social Sciences

Applying knowledge from the social and physical sciences, students in Family Social Sciences examine factors affecting human psychosocial health and wellbeing. They study human development from infancy to old age within the context of families, communities, and culture.

Students are required to choose at least one area, or option, in which to focus their studies. The name of their option will appear as a "comment" on their transcripts. They may select from the following options: 1) Aging; 2) Child and Adolescent Development; 3) Family Economic Health; 4) Family Violence and Conflict Resolution; 5) Social Development. Family Social Sciences graduates are permitted to complete any option after their degree as a Special Student.

The Family Social Sciences program can provide students with academic preparation or complementary courses for programs such as Law, Social Work, Education or Graduate Studies.

In March of each year, program planning sessions are provided to assist students in their selection of courses for subsequent years of study.

Students Admitted in September 2002 or Later

Courses to be taken by all Family Social Sciences students:

Course No.		Credit Hours
STAT 1000	Basic Statistical Analysis	3
One of:		
STAT 2000 or COMP 1260	Basic Statistical Analysis 2, Introductory Computer Usage 1, or any other Science course	3
One of:		
ECON 1200, ECON 1210 or ECON 1220	Principles of Economics, Introduction to Canadian Economic Issues, or Introduction to Global and Environmental Economic Issues and Policies	3-6
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 2050	Introduction to Research in Human Ecology	3
HMEC 3100	Communications for Professional Practice	3
FMLY 1010	Human Development in the Family	3
FMLY 1012	Introduction to Social Development	3
FMLY 1020	Family Issues across the Lifespan	3
FMLY 1420	Family Management Principles	3
FMLY 2400	Family Financial Health (or FMLY 2070)	3
FMLY 2350	Multicultural Family Issues	3
FMLY 3780	Introduction to the Development of Programs for Children and Families	3
FMLY 3790	Introduction to the Evaluation of Programs for Children and Families	3
PSYC 1200 or SOC 1200	Introduction to Psychology or Introduction to Sociology	6
	Department Electives	24
	Faculty electives (3000 or 4000 level)	3
	Outside Electives	12-15
	Free electives	30

NOTES:

- 1) If students choose ECON 1200, 12 credit hours of outside electives are required.
- 2) All courses listed in the general Family Social Sciences section (above) are required. In addition, students must choose at least one area, or option, in which to focus their studies. In the following section, the courses required to fulfill each option are listed. They will partially meet department, outside and free elective requirements. More courses will be required to complete the 120 credit hour degree. Students are encouraged to take more than one option. Each option must consist of 18 non-overlapping credit hours; that is, no course can satisfy the requirements of more than one option.

Aging Option

This option is the Interfaculty Option in Aging, which can fulfill the requirement for an option within the Family Social Sciences major.

HMEC or SWRK or REC 2650	Social Aspects of Aging	3
FMLY 4300	Field Experience	6
NURS or KIN 2610	Health and Physical Aspects of Aging	3
At least 3 credit hours from:		3
FMLY 3220	Death and the Family	3
FMLY 3240	Families in Later Years	
At least 3 credit hours from:		3
NURS 2200	Selected Topics in Aging and Health	3
PSYC 2370	Developmental Psychology from Adolescence to Old Age	
PSYC 3460	Abnormal Psychology	3
PSYC 3490	Individual Differences	
PSYC 3610	Memory	
KIN 4500	Physical Activity and Aging	
REC 4250	Leisure and Aging	
RLGN 1410	Death and Concepts of the Future	
SOC 2490	Sociology of Health and Illness	
SOC 2620	The Sociology of Aging	
SOC 3510	Population Dynamics and Change	
SOC 3540	The Sociology of Health Care Systems	

Child and Adolescent Development Option

FMLY 2600	Foundations of Childhood Developmental Health	3
FMLY 3600	Adolescents in Families and Societies	3
FMLY 4600	Risk and Resilience in Behavioural and Social Development	3
At least nine credit hours from:		9
FMLY 2800	Family Violence	3
FMLY 3610	Developmental Health of Children and Youth	
FMLY 3800	Conflict Resolution in the Family	
FMLY 3802	Intimate Partner Violence	
FMLY 3804	Violence Against Children in the Family	
FMLY 3330	Parenting and Developmental Health	
FMLY 4330	Management of Family Stress	
FMLY 4602	Family Relationships, Health and Well-Being	
FMLY 4480	Work and Family Issues	
HNSC 1210	Nutrition for Health and Changing Lifestyles	
HNSC 2130	Nutrition through the Life Cycle	
NURS 4440	Health Promotion in the Community	
NURS 4420	Prevention of Illness	
PSYC 2440	Behaviour Modification Principles	
PSYC 2450	Behaviour Modification Applications	

Family Economic Health Option

At least 9 credit hours from:		9
FMLY 3400	Families as Consumers	3
FMLY 4330	Management of Family Stress	
FMLY 4400	Family Economics: Poverty and Wealth	
FMLY 4460	Family Financial Counselling	
FMLY 4480	Work and Family Issues	
At least 9 credit hours from (at least 3 credit hours must be selected from courses numbered 3000 or 4000):		
ACC 1100	Introductory Financial Accounting	
ACC 1110	Introductory Managerial Accounting	
ANTH 2550	Culture and the Individual	3
ANTH 2430	Ecology, Technology and Society	
ECON 2280	Social Welfare and Human Resources	
ECON 2310	Canadian Economic Problems	
ECON 2350	Community Economic Development	
ECON 2360	Women in the Canadian Economy	
ECON 2390	Introduction to Environmental Economics	
ECON 2400	Introduction to Energy Economics	
ECON 2540	Political Economy 1: Production and Distribution	

ECON 2550	Political Economy 2: Economic Growth and Fluctuations in a Global Economic Environment	
ECON 3390	Development Economics	
ECON 3720	Urban and Regional Economics and Policies	
FIN 2200	Corporation Finance	
FIN 3420	Security Analysis	
FMLY 3012	Social Development Policies	
FMLY 3240	Families in Later Years	
FMLY 3610	Developmental Health of Children and Youth	
FMLY 4012	Theories of Social Development	
FMLY 4602	Family Relationships, Health and Well-Being	
GEOG 1280	Introduction to Human Geography	
GEOG 2210	Economic Geography	
GMGT 2030	Administrative Theory	
GMGT 2440	Human Resource Management	
HNSC 1210	Nutrition for Health and Changing Lifestyles	
HNSC 2130	Nutrition through the Life Cycle	
IDM 3000	Aboriginal Business Context: Influences and Impacts	
MKTG 2210	Fundamentals of Marketing	
MKTG 3230	Consumer Behaviour	
NATV 1200	The Native Peoples of Canada	
NATV 1220	The Native Peoples of Canada, Part 1	
NATV 1240	The Native Peoples of Canada, Part 2	
NURS 4440	Health Promotion in the Community	
SOC 3370	Sociology of Work	
SOC 3510	Population Dynamics and Change	
SOC 3470	Political Sociology	
SOC 3870	Social Inequality	
TXSC 1600	Textiles for Living	
TXSC 1610	Textiles, Product and Consumers	
TXSC 2600	Textiles for Apparel End Uses	
TXSC 2610	Textiles for Non Apparel End Uses	
TXSC 2620	Consumer and Organizational Behaviour Toward Textile Products	
TXSC 3600	Consumer and Organizational Behaviour Toward Textile Products	

Family Violence and Conflict Resolution Option

FMLY 2800	Family Violence	3
FMLY 3800	Conflict Resolution in the Family	3
FMLY 4800	Senior Seminar in Family Violence and Conflict Resolution	3
	At least 9 credit hours (at least 3 credit hours must be selected from courses numbered 3000 or 4000):	9
ANTH 3380	Anthropology and Contemporary Social Issues	
FMLY 3610	Developmental Health of Children and Youth	
FMLY 3802	Intimate Partner Violence	
FMLY 3804	Violence Against Children in the Family	
FMLY 4330	Management of Family Stress	
FMLY 4600	Risk and Resilience in Behavioural and Social Development	
FMLY 4602	Family Relationships, Health and Well-Being	
NATV 1240	The Native Peoples of Canada, Part 2	
NURS 3300	Women and Health	
NURS 3400	Men's Health: Concerns, Issues and Myths	
PSYC 2460	Dyadic Relationships	
SOC 2370	Ethnic Relations	
SOC 2510	Criminology	
SOC 3700	Sociology of Law	
SOC 3790	Women, Crime and Social Justice	
SOC 3830	Youth, Crime, and Society	
SWRK 3130	Contemporary Canadian Social Welfare	
WOMN 3560	Feminist Perspectives on Violence Against Women	

Social Development Option

FMLY 2012	Development, Conflict, and Displacement	3
FMLY 3012	Social Development Policies	3
FMLY 4012	Theories of Social Development	3
	At least 3 credit hours from:	3
HMEC or SWRK or REC 2650	Social Aspects of Aging	
FMLY 2800	Family Violence	
FMLY 3240	Families in Later Years	
FMLY 3400	Families as Consumers	
FMLY 3800	Conflict Resolution in the Family	
FMLY 3804	Violence Against Children in the Family	
FMLY 4330	Management of Family Stress	
FMLY 4400	Family Economics, Poverty and Wealth	
FMLY 4600	Risk and Resilience in Behavioural and Social Development	
FMLY 4602	Family Relationships, Health and Well-Being	
FMLY 4480	Work and Family Issues	
	At least 6 credit hours from:	6
ANTH 1220	Cultural Anthropology	
ANTH 2390	Social Organization in Cross-Cultural Perspective	
ANTH 2570	Urban Anthropology	
ANTH 3380	Anthropology and Contemporary Social Issues	
EVCP 3340	History of the City	
EVCP 3350	Planning and Design for Shelter	
EVDS 1610	Theory of Design 1	
GEOG 2640	Geography of Culture and Inequality	
GEOG 3460	Urban Geography	
SOC 2320	Canadian Society and Culture	
SOC 2390	Social Organization	
SWRK 2050	Community and Organizational Theory	
	OR at least 6 credit hours from:	6
NATV 1200	The Native Peoples of Canada	
NATV 1220	The Native Peoples of Canada, Part 1	
NATV 1240	The Native Peoples of Canada, Part 2	
NATV 2100	Aboriginal Spirituality	
NATV 3240	Native Medicine and Health	
NATV 4230	Traditional Knowledge and Native Studies Research	
	OR at least 6 credit hours from:	6
POLS 2070	Introduction to Canadian Government	
POLS 2510	Great Political Thinkers	
POLS 3160	Human Rights and Civil Liberties	
POLS 3600	Political Concepts	
POLS 3670	Canadian Political Parties	
WOMN 1540	Introduction to Women's Studies in Social Sciences	
WOMN 2500	Race, Class and Sexuality	

4.5 The After Degree Program in Family Social Sciences

An After Degree Program (ADP) in Family Social Sciences is offered to students who have completed a previous undergraduate degree. ADP students must complete 60 credit hours in total to earn their second degree in Family Social Sciences. All Family Social Sciences U1 prerequisites are waived. In order to facilitate ADP students completing the program in a timely manner, they will automatically be permitted (without special permission from the course instructor) to take Family Social Sciences 2000 level prerequisites as corequisites for any required Family Social Sciences 3000 and/or 4000 level courses. Please consult with the Student Advisor when planning programs prior to registration. ADP students are required to choose at least one option to specialize in and meet its requirements at the second year level and beyond. These 18 credit hours may include courses external to the Faculty of Human Ecology that are required to complete an option. If a second option is not chosen, then these credit hours must be taken within the department. There are no free electives in the ADP.

Students admitted in January 2007 or Later

Faculty of Human Ecology Core Courses (any 6 credit hours. See note 3):

At least 6 credit hours from:

HMEC 2030,	Human Ecology: Perspectives & Communication,	6 - 9
HMEC 2050,	Introduction to Research in Human Ecology,	
HMEC 3100	Communication for Professional Practice (see note 3)	
Family Social Sciences Requirements (see note 4):		
FMLY 2400	Family Financial Health	3
FMLY 2350	Multicultural Family Issues	3
FMLY 3780	Introduction to the Development of Programs for Children and Families	3
FMLY 3790	Introduction to the Evaluation of Programs for Children and Families	3
And a minimum of 6 credit hours from (see note 5):		
FMLY 2600	Foundations of Childhood Developmental Health	6
FMLY 2800	Family Violence	
FMLY 2012	Development, Conflict, and Displacement	
HMEC/SWRK/	The Social Aspects of Aging	
REC 2650		
Family Social Sciences Option (see note 6)		
Family Social Sciences Electives (see note 7)		15-18
STAT 1000	Basic Statistical Analysis (see note 8)	3
TOTAL		60

NOTES:

1. The same entrance requirements will be applied to ADP students in order to maintain current Faculty of Human Ecology standards.
2. Basic social science knowledge is assumed because ADP students have previously completed an undergraduate degree; waiving U1 requirements for FSS courses acknowledges the skills, background and maturity of this particular group of students.
3. This choice provides students who have previously taken a research methods course with the option of avoiding redundancy in their program. Students are free to take all three core courses if they feel it would benefit them. If students select 9 credit hours of core courses, the FSS electives component is reduced to 15 credit hours.
4. This set of courses is currently required of all undergraduate FSS students and is required for students in the ADP.
5. Students are required to take a minimum of any two (6 credit hours) of the introductory level courses across options. Review the list of options found in the 120 credit hour undergraduate degree program to assist with planning for prerequisites for higher level courses.
6. Each FSS option is a total of 18 credit hours; ADP students will have taken at least one 2000 level course (3 credit hours) required by the chosen option as part of their program requirements, leaving the remaining 15 credit hours to be completed to fulfil the option. Completion of the option may include courses external to the Faculty of Human Ecology that are required to complete an option
7. ADP students are encouraged to specialize in two options simultaneously to strengthen and broaden their expertise. If a second option is chosen, these credit hours may include courses external to the Faculty of Human Ecology that are required to complete the option. If students have completed the 2000 level course required for the second option, the requirement to complete the option is 15 credit hours. If a second option is not chosen, then these credit hours must be taken within the department.
8. Students who have previously completed an undergraduate statistics course can either transfer it in directly (if already assessed as equivalent) or can request to have it assessed for advanced standing; if successful, students will be required to add 3 credit hours to their program from courses selected from the Department of Family Social Sciences.

4.6 The Family Social Sciences Minor

A minor in Family Social Sciences is offered by the Department of Family Social Sciences. Students must complete 18 credit hours, distributed as follows: Six (6) credit hours in Family Social Sciences at the 1000 level, and at least three (3) credit hours in Family Social Sciences at the 2000 level, and at least three (3) credit hours in Family Social Sciences at the 3000 or 4000 level, with no more than 6 credit hours at the 1000 level.

Students must check with their home Faculties to see if the Family Social Sciences minor is available in their programs.

4.7 Human Ecology Program

Chair: Gustaaf Sevenhuysen

The Human Ecology program is one of five degree choices in the Faculty of Human Ecology and is designed for students who have career goals that require basic preparation in each of the major subject areas of the faculty. The program provides course work in Human Nutritional Sciences, Textile Sciences and Family Social Sciences as well as the requirement of an 18 hour Minor in a related field – the minor designation will also appear on the student’s transcript. The program has a large elective course component to permit students to select courses to meet individual interests and career options. Persons who intend to select this program are advised that high school Chemistry 40S and Mathematics 40S are prerequisites to CHEM 1300 University 1: Structure and Modeling in Chemistry, which is highly recommended as an elective course.

Before entering continuing years in the Faculty of Human Ecology, the overall program must be planned in consultation with the Chair or committee member. Course planning sessions are held in March of each year.

Students Admitted in September 2005 or Later

Course No.	Credit Hours	
ECON 1200	or ECON 1210 and ECON 1220 Economics	6
	Six credit hours from ECON 2280, ECON 2310, ECON 2390, ECON 2400, ECON 2540, ECON 2550	6
FMLY 1020	Family Issues across the Lifespan	3
	Six credit hours from FMLY 1010, FMLY 1420 or FMLY 1012	6
FMLY 2350	Multicultural Family Issues	3
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 2050	Introduction to Research in Human Ecology	3
HMEC 3100	Communication for Professional Practice	3
HNSC 1200	Food: Facts and Fallacies	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
HNSC 2130	Nutrition through the Life Cycle	3
NATV 1200	The Native Peoples of Canada, or	6
NATV 1220 and	The Native Peoples of Canada Part 1 and The Native Peoples of Canada Part 2	
NATV 1240		
STAT 1000	Basic Statistical Analysis 1	3
PSYC 1200	Introduction to Psychology	6
Or	Or	
SOC 1200	Introduction to Sociology	
TXSC 1600	Textiles for Living	3
TXSC 1610	Textiles, Product and Consumers	3
	Science course as defined by Faculty of Science	3
	Faculty Electives (at least 9 credit hours at 3000 or 4000 level; HMEC 4090, Practicum is highly recommended)	24
	Minor/option	18

Recommended Minors/Options:

Canadian Studies, Family Social Sciences, Human Nutrition and Metabolism, Labour and Workplace Studies, Management, Native Studies, Option in Aging, Political Studies, Sociology, Urban Studies, Women and Gender Studies	
Free electives	12

4.8 Human Nutritional Sciences

Head: James D. House

Students majoring in Human Nutritional Sciences will choose the Nutrition Option, the Foods Option, the Food Industry Option, or will select the second degree in Human Nutritional Sciences. The educational requirements to qualify for a dietetic internship and membership with the College of Dietitians of Manitoba (CDM) or dietetic colleges in other Canadian provinces may be met within the Nutrition Option with the recommended selection of courses. Students can apply for a dietetic internship during the program (see application requirements and procedures for Pre-Selection by the Manitoba Partnership Program), in the final year of their degree or after completion of their degree. Internships are awarded competitively by external institutions. Review the section on academic requirements for eligibility to apply for a dietetic internship for students admitted in September, 2007 and later. Those who plan to enter Human Nutritional Sciences are advised that high school Chemistry 40S and Mathematics 40S are prerequisites to CHEM 1300 University 1: Structure and Modeling in Chemistry. A student admitted to the Human Nutritional Sciences program must take a minimum of one HNSC required course in the year they are admitted. Before entering continuing years in the Faculty of Human Ecology, the overall program must be planned with departmental advice. Sessions are held in March of each year.

Students admitted in September 2010 or later must register for at least one HNSC course (3 credit hours) in order to stay in the Human Nutritional Sciences program.

Students Admitted in September 2002 or Later

Course No.	Course Name	Credit Hours
Courses to be taken by all Human Nutritional Sciences students		
CHEM 1300	University 1: Structure and Modeling in Chemistry	3

CHEM 1320	University 1: Introduction to Organic Chemistry (See Note 1)	3	FOOD 4250	Food Analysis 2	3
CHEM 2770	Elements of Biochemistry 1 (See Note 2)	3	STAT 3000	Applied Linear Statistical Models	3
CHEM 2780	Elements of Biochemistry 2 (See Note 3)	3	STAT 3170	Statistical Quality Control	3
FOOD 4150	Food Microbiology	3	Food Product Development Concentration		15
HMEC 2030	Human Ecology: Perspectives and Communication	3	FOOD 4160	Food Analysis 1	3
HMEC 2050	Introduction to Research in Human Ecology	3	FOOD 4250	Food Analysis 2	3
HMEC 3100	Communication for Professional Practice	3	FOOD 4500	Food Safety and Regulations	3
HNSC 1200	Food: Facts and Fallacies	3	One of FOOD 3160, FOOD 3170, or FOOD 3200	One of Frozen Dairy Products, Cheese and Milk Products, or Baking Science	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3	HNSC 4270	Sensory Evaluation of Food	3
HNSC 2130	Nutrition through the Life Cycle	3	HNSC 4290	Food, Nutrition and Health Policies	3
HNSC 2140	Basic Principles of Human Nutrition	3	HNSC 4540	Functional Foods and Nutraceuticals	3
HNSC 2150	Composition, Functional and Nutritional Properties of Foods	3	STAT 3000	Applied Linear Statistical Models	3
HNSC 2160	Food Preparation and Preservation	3	Food Industry Management Concentration		15
HNSC 3330	Ingredient Technology for Designed Foods	3	ACC 1100	Introductory Financial Accounting	3
HNSC 4160	Seminar in Foods and Nutrition	3	GMGT 2080	Introduction to Management and Organization Theory	3
HNSC 4290	Food, Nutrition and Health Policies	3	GMGT 3010	Management Decision-Making	3
PSYC 1200 or SOC 1200	Introduction to Psychology or Introduction to Sociology or Combination of the two areas	6	HRIR 2440	Human Resource Management	3
STAT 1000	Basic Statistical Analysis 1	3	MKT 3220	Marketing Research	3
STAT 2000	Basic Statistical Analysis 2	3	HNSC 3342	Management for Food and Nutritional Professionals	3
BIOL 1410	Anatomy of the Human Body or	3 - 6	GMGT 3XXX	3000 level	3
BIOL 1020 and BIOL 1030	Biology 1 and 2 (If Biology 1 and 2 are taken, the additional 3 credit hours are considered to be free electives)		Electives (see Advising Information for suggested electives)		15
BIOL 1412	Physiology of the Human Body (See Note 4)	3			

Nutrition Option

HNSC 3300	Vitamins and Minerals in Human Health	3
HNSC 3310	Macronutrients and Human Health	3
HNSC 3320	Nutrition Education and Dietary Change	3
HNSC 4320	Nutritional Management of Disease States	3
Or		
HNSC 4300	Community Nutrition Intervention	15
	Department Electives	24
	Free Electives	
	Restricted Faculty Electives (see Note 5)	

Foods Option

HNSC 3300	Vitamins and Minerals in Human Health or	3
HNSC 3310	Macronutrients and Human Health	3
HNSC 3260	Food Quality Evaluation	3
HNSC 3350	Culture and Food Patterns	3
HNSC 4270	Sensory Evaluation of Food	3
HNSC 4280	Food Product Development	3
MKTG 2210	Fundamentals of Marketing	3
	Program Electives (See Note 6)	9
	Free Electives	24
	Restricted Faculty Electives (see Note 5)	

Food Industry Option

FOOD 4310	Introduction to HACCP	3
GMGT 2070	Introduction to Organizational Behaviour	3
HNSC 3260	Food Quality Evaluation	3
HNSC 3300 or HNSC 3310	Vitamins and Minerals in Human Health or Macronutrients and Human Health	3
HNSC 4280	Food Product Development	3
HNSC 4364	Foods Industry Option Practicum	6
MKT 2210	Fundamentals of Marketing	3

NOTE: HNSC 4290 is not a requirement for students in the Food Industry Option. Students in the Food Industry Option must complete one of the following concentrations (15 credit hours). Select 15 credit hours of course work from the list that follows.

Quality Assurance Concentration

AGRI 2190	Toxicology Principles	1.5
ANSC 2530	Nutritional Toxicology	1.5
FOOD 4160	Food Analysis 1	3
FOOD 4250	Food Analysis 2	3
FOOD 4500	Food Safety and Regulations	3

FOOD 4250	Food Analysis 2	3
STAT 3000	Applied Linear Statistical Models	3
STAT 3170	Statistical Quality Control	3
Food Product Development Concentration		15
FOOD 4160	Food Analysis 1	3
FOOD 4250	Food Analysis 2	3
FOOD 4500	Food Safety and Regulations	3
One of FOOD 3160, FOOD 3170, or FOOD 3200	One of Frozen Dairy Products, Cheese and Milk Products, or Baking Science	3
HNSC 4270	Sensory Evaluation of Food	3
HNSC 4290	Food, Nutrition and Health Policies	3
HNSC 4540	Functional Foods and Nutraceuticals	3
STAT 3000	Applied Linear Statistical Models	3
Food Industry Management Concentration		15
ACC 1100	Introductory Financial Accounting	3
GMGT 2080	Introduction to Management and Organization Theory	3
GMGT 3010	Management Decision-Making	3
HRIR 2440	Human Resource Management	3
MKT 3220	Marketing Research	3
HNSC 3342	Management for Food and Nutritional Professionals	3
GMGT 3XXX	3000 level	3
Electives (see Advising Information for suggested electives)		15

4.8.1 Pre-Professional Preparation

Students in the Human Nutritional Sciences program can complete the entrance requirements for several professional programs as part of the degree.

A. Dietetics Focus: Academic requirements for eligibility to enter a dietetic internship.

1. Courses required in addition to the Human Nutritional Sciences program:

Course No.	Course Name	Credit Hours	Placement in Program
GMGT 2030	Administrative Theory (or GMGT 2070 or GMGT 2080)	3	Free Elective
HNSC 3342	Management for Food and Nutrition Professionals	3	Department Elective
HNSC 4140	Quantity Food Production and Management	3	Department Elective
HNSC 4XXX	One of HNSC 4300, HNSC 4310, HNSC 4362, or HNSC 4340	3-6	Department Elective

2. Entry into a Dietetic internship is competitive. It is strongly recommended that students seek advice from the Department on all aspects of preparing an application to an internship.

i. Students admitted prior to September 2007:

Students admitted prior to September, 2007 will follow regulations regarding Dietetic internship applications in the final year of their degrees (information available on the Human Ecology web site and from the Dean's Office).

ii. Students admitted for September 2007 or later:

Students admitted to the Faculty of Human Ecology's Department of Human Nutritional Sciences in September, 2007 or later, will be eligible to apply to be pre-selected by the Manitoba Partnership Dietetic Education Program (MPP) after completion of 60 – 90 credit hours. Details of the pre-selection process and the academic rating selection criteria will be published by the MPP and a link is available on the Faculty of Human Ecology's web site. If students are not pre-selected by the MPP, there are other opportunities to apply in the final year of degree for internships following degree completion.

3. For those intending to apply for a Dietetic internship, the second degree's Dietetics Preparation program meets the course requirements 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. Check with an Academic Advisor to review the supporting course requirements from previous academic work.

B. Medicine or Dentistry: Eligibility for entry into the program Doctor of Medicine, or the program Doctor of Dental Medicine, at the University of Manitoba.

Courses required in addition to the Human Nutritional Sciences program (can be taken as electives in the program):

Course No.	Course Name	Credit Hours	Placement in Program
CHEM 2210*	Introduction to Organic Chemistry 1: 3 Structure and Function (see Note 7)	3	Free Elective
CHEM 2220	Introduction to Organic Chemistry 2: 3 Reactivity and Synthesis (See Note 7)	3	Free Elective
CHEM 2360** or MBIO 2360	Biochemistry 1: Bio-molecules and an Introduction to Metabolic Energy	3	Free Elective
CHEM 2370** or MBIO 2370	Biochemistry 2: Catabolism, Synthesis and Information Pathways	3	Free Elective
	Humanities requirement (Check the Faculty of Medicine's application information regarding the Humanities/Social Science requirement).		Free Elective
PHYS 1020	General Physics 1	3	Free Elective
PHYS 1030	General Physics 2	3	Free Elective

* Cannot be held with CHEM 1320 in the same program. Prerequisite is CHEM 1310 (University 1: Introduction to Physical Chemistry).

** These courses replace the biochemistry courses in the Human Nutritional Sciences program.

C. Law: Eligibility for entry into the program Bachelor of Laws at the University of Manitoba.

1. The Human Nutritional Sciences program meets the entrance requirements of the Faculty of Law.

2. It is necessary to apply to the Faculty of Human Ecology to take HMEC 2030 (Human Ecology: Perspectives and Communication) in University 1, as it is not normally available to students in University 1.

NOTES:

1. Under required courses, students can take either CHEM 1320 (University 1: Introduction to Organic Chemistry) or CHEM 1310 (University 1: Introduction to Physical Chemistry).

2. Under required courses, students can take either CHEM/MBIO 2770 (Elements of Biochemistry 1) or CHEM/MBIO 2360 (Biochemistry 1: Bio-molecules and an Introduction to Metabolic Energy).

3. Under required courses, students can take either CHEM/MBIO 2780 (Elements of Biochemistry 2) or CHEM/MBIO 2370 (Biochemistry 2: Catabolism, Synthesis, and Information Pathways).

4. Under required courses, students can take either BIOL 1412 (Physiology of the Human Body) or BIOL 2410 (Human Physiology 1) and BIOL 2412 (Human Physiology 2). Note that students selecting BIOL 1020 and 1030 are not required to complete BIOL 1410, and will decrease electives to 12 credit hours. The selection of BIOL 1020 and 1030 will have more options with regard to taking higher level Botany, Zoology and Microbiology courses as electives.

5. Students admitted between 1994 and September 2001 may choose to eliminate the requirement for 9 credit hours of Restricted Faculty Electives from their programs. Please advise an Academic Advisor using the elective change form available in the General Office.

6. Nine credit hours of courses from either the Asper School of Business and/or from 3rd and 4th year courses in the Department of Food Science.

7. For students who do not take CHEM 2210 and CHEM 2220, CHEM 1320 is preferred.

4.9 Minor in Human Nutrition and Metabolism

The Minor in Human Nutrition and Metabolism (18 credit hours) requires the following courses:

Course No.	Course Name	Credit Hours
HNSC 1200	Food: Facts and Fallacies	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
HNSC 2140	Basic Principles of Human Nutrition	3
HNSC 3300	Vitamins and Minerals in Human Health	3
HNSC 3310	Macronutrients and Human Health	3
HNSC 4120 or HNSC 4540	Senior Thesis or Functional Foods and Nutraceuticals	3

4.10 Second Degree Program in Human Nutritional Sciences

Required Courses – 45 Credit Hours

Refer to information in section 4.8.1 about applying for a Dietetic internship. 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.

Course No.	Course Name	Credit Hours
CHEM 1300	University 1: Structure and Modeling in Chemistry (see note 1)	3
CHEM 1320	University 1: Introduction to Organic Chemistry (see note 1)	3
CHEM 2770	Elements of Biochemistry 1 (see note 2)	3
CHEM 2780	Elements of Biochemistry 2 (see note 3)	3
HNSC 2140	Basic Principles of Human Nutrition	3
HNSC 2160	Principles of Food Preparation and Preservation	3
HNSC 3300	Vitamins and Minerals in Human Health	3
HNSC 3310	Macronutrients and Human Health	3
HNSC 3320	Nutrition Education and Dietary Change	3
HNSC 3330	Ingredient Technology for Designed Foods	3
HNSC 4290	Food, Nutrition and Health Policies	3
STAT 1000	Basic Statistical Analysis 1	3
STAT 2000	Basic Statistical Analysis 2	3
BIOL 1410 or BIOL 1020 and BIOL 1030	Anatomy of the Human Body or Biology 1 and Biology 2 (see note 4)	3-6
BIOL 1412	Physiology of the Human Body (see note 5)	3

Free Elective Courses - 6 credit hours. If additional courses are required as prerequisites, they will be considered free electives.

Elective Courses – 9 credit hours from Human Nutritional Sciences (choose one of three options):

Course No.	Course Name	Credit Hours
A. Dietetics Preparation		
HNSC 3342	Management for Food and Nutrition Professionals	3
HNSC 4140	Quantity Food Production and Management	3
HNSC 4320	Nutrition Management of Disease States	3
B. Human Nutrition		
HNSC 4320	Nutrition Management of Disease States	3
or		
HNSC 4300	Community Nutrition Intervention	6
Choose 6 credit hours from:		
HNSC 4300,	Community Nutrition Intervention, Nutrition and the Elderly, Maternal and Child Nutrition,	
HNSC 4310,	or Nutrition in Exercise and Sport	
HNSC 4340		
or		
HNSC 4350		
C. Foods		
HNSC 2150	Composition, Functional and Nutritional Properties of Foods	3
HNSC 3260	Food Quality Evaluation	3
HNSC 4540	Functional Foods and Nutraceuticals	3

NOTES:

1. Under required courses, students can take either CHEM 1320 (University 1: An Introduction to Organic Chemistry), or CHEM 1310 (University 1: An Introduction to Physical Chemistry). Students can take CHEM 2210 (Introduction to Organic Chemistry 1: Structure and Function) and CHEM 2220 (Introduction to Organic Chemistry 2: Reactivity and Synthesis) instead of CHEM 1300 and CHEM 1310 or CHEM 1320. For students who do not take CHEM 2210 and CHEM 2220, CHEM 1320 is preferred.

2. Under required courses, students can take either CHEM/MBIO 2770 (Elements of Biochemistry 1) or CHEM/MBIO 2360 (Biochemistry 1: Bio-molecules and in Introduction to Metabolic Energy).

3. Under required courses, students can take either CHEM/MBIO 2780 (Elements of Biochemistry 2) or CHEM/MBIO 2370 (Biochemistry 2: Catabolism, Synthesis, and Information Pathways).

4. Under required courses, students can take either BIOL 1412 (Physiology of the Human Body) or BIOL 2410 (Human Physiology 1) and BIOL 2412 (Human Physiology 2). Note that students selecting BIOL 1020 and 1030 are not required to complete BIOL 1410, and will decrease electives to 12 credit hours. The selection of BIOL 1020

and 1030 will have more options with regard to taking higher level Botany, Zoology and Microbiology courses as electives.

5. If BIOL 1020 and BIOL 1030 are taken, the additional 3 credit hours are considered to be free electives.

4.11 Interdisciplinary Health Program

Program Chairperson: Caroline Piotrowski

This curriculum consists of two degree programs: the Bachelor in Health Sciences and the Bachelor in Health Studies. These degree programs offer new approaches to planning, administration and delivery of health services by fully integrating biological science and social science in understanding the health of people. Students will gain experience of dealing with health issues at the individual, community and institutional levels, as well as across the lifespan. The two degrees can serve as the foundation for careers in health care teams and community health management. They offer a general course of study, not a professional status. Students can use both degree programs to build the knowledge and prerequisites for entry into professional programs in the health and social science fields, such as medicine, dentistry and others. The Bachelor of Health Sciences degree provides students with an interdisciplinary background and skill set that will contribute to their preparation for a future in biomedical and health-related careers. This interdisciplinary skill set is seen as advantageous for future physicians and students applying for professional education.

4.11.1 Health Sciences Degree

Course No.	Course Name	Credit Hours
The following 30 credit hours are to be taken in U1		
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interaction	3
CHEM 1300	University 1: Structure and Modeling in Chemistry	3
CHEM 1310	University 1: Introduction to Physical Chemistry	3
PSYC 1200	Introduction to Psychology	6
STAT 1000	Basic Statistical Analysis 1	3
BIOL 1410	Anatomy of the Human Body	3
BIOL 1412	Physiology of the Human Body	3
Required courses		
COMP 1260	Introductory Computer Usage I	3
ECON 1210	Introduction to Canadian Economic Issues and Policies	3
GMGT 2070	Introduction to Organizational Behaviour	3
HEAL 2600	Integration: Individual Focus	3
HEAL 3600	Integration: Community Focus	3
HEAL 4600	Integration: Canada and World Focus	3
HEAL 4620	Health Sciences Capstone	3
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 3500	Developmental Health	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
PHIL 1290	Critical Thinking	3
PSYC 2250	Introduction to Psychological Research	3
Select 6 out of 9 credit hours		
GEOG 4290	Geographies of Health and Health Care	
PHIL 2740	Ethics and Biomedicine	
SOC 2490	Sociology of Health and Illness	
Elective Courses	To be taken from an approved list of Science courses (available on the Human Ecology web site and from the Dean's Office): At least 21 credit hours are to be taken from the list of approved Science courses (Group A). At least 24 credit hours are to be taken at the 3000 and 4000 level.	36
Free Electives		15

4.11.2 Health Studies Degree

Course No.	Course Name	Credit Hours
The following 30 credit hours are to be taken in U1		
ANTH 1210	Human Origins and Antiquity	3
ANTH 1220	Cultural Anthropology	3
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interaction	3
PSYC 1200	Introduction to Psychology	6
SOC 1200	Introduction to Sociology	6
STAT 1000	Basic Statistical Analysis 1	3
Required courses		
COMP 1260	Introductory Computer Usage I	3
ECON 1210	Introduction to Canadian Economic Issues and Policies	3
GMGT 2070	Introduction to Organizational Behaviour	3
HEAL 2600	Integration: Individual Focus	3
HEAL 3600	Integration: Community Focus	3
HEAL 4600	Integration: Canada and World Focus	3
HEAL 4610	Health Studies Capstone	3
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 3500	Developmental Health	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
PHIL 1290	Critical Thinking	3
PSYC 2250	Introduction to Psychological Research	3
Select 6 out of 9 credit hours		
GEOG 4290	Geographies of Health and Health Care	
PHIL 2740	Ethics and Biomedicine	
SOC 2490	Sociology of Health and Illness	
Elective Courses	To be taken from an approved list of Social Science courses (available on the Human Ecology web site and from the Dean's Office): At least 21 credit hours are to be taken from the list of approved Social Science courses (Group A). At least 24 credit hours are to be taken at the 3000 and 4000 level.	36
Free Electives		15

Notes:

1. Before entering continuing years in the Faculty of Human Ecology, the overall program must be planned with academic advice. Sessions are held in March of each year.
2. Students are strongly encouraged to seek the advice of Academic Advisors in the Faculty of Human Ecology in order to plan their programs to develop pathways of knowledge that will assist them in moving toward careers in chosen fields. Advice is available in the Dean's Office and on the Human Ecology web site.
3. Students in both programs are required to structure their course selections as follows:

In Health Sciences, students are required to take 21 credit hours of science and 12 credit hours of social science courses from 36 credit hours of Approved Electives.

In Health Studies, students are required to take 21 credit hours of social science and 12 credit hours of science courses from 36 credit hours of Approved Electives.

Students in both programs are required to take at least 24 credit hours at the 3000 and 4000 levels from 36 credit hours of Approved Electives. Students in both programs are required to take at least 21 credit hours from List A, at most 6 credit hours from List B and at most 3 credit hours from List C from 36 credit hours of Approved Electives.

Students should consult the University Calendar to ensure that they have the appropriate pre- or corequisites before they attempt to register in a course. A number of courses are cross-listed between departments/faculties. The Student Advisor will give additional guidance.

4.12 Textile Sciences

Acting Head: Tammi Feltham

The Textile Sciences undergraduate program imparts knowledge and skills which meet the demands of work and research environments driven by scientific, technological, and logistical innovations in textiles. It comprises two streams – product development and textile development. The product development stream is structured to help students develop problem solving abilities systematically through the application and integration of knowledge in textile science, human and organizational behaviour, environmental forces, and methods of quantifying and interpreting observations. The textile development stream is a response to the emerging significance of textiles in health and health promotion. Within the textile development stream, three options will be offered – Exercise and Sports

Science, Engineering Sciences, and Microbiological Sciences. These options capitalize on the strengths of other academic disciplines within the University of Manitoba which are relevant to the study of textiles for health and health promotion. Students who choose the textile development stream must have pre-calculus Mathematics 40S or the former Mathematics 40S and Chemistry 40S. Students who consider subscribing to the Engineering Sciences Option must have pre-calculus Mathematics 40S, or the former Mathematics 40S, Physics 40S, and Chemistry 40S. Students must choose either the Textile Development or Product Development choice upon first registration in the Faculty.

In March of each year program planning sessions are provided to assist students in their selection of courses for subsequent years of study.

Students Admitted in September 2005 or Later

4.12.1 Product Development Stream

Course No. Credit Hours

CHEM 1000	Understanding the World through Chemistry	3
or	or	
CHEM 1300	University 1 Chemistry: Structure and Modelling in Chemistry	
ECON 1210	Introduction to Canadian Economic Issues and Policies	3
ECON 1220	Introduction to Global and Environmental Economic Issues and Policies	3
FMLY 1010	Human Development in the Family	3
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 2050	Introduction to Research in Human Ecology	3
HMEC 3100	Communication for Professional Practice	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
PERS 1200	Physical Activity, Health and Wellness	3
PSYC 1200	Introduction to Psychology	6
or	or	
SOC 1200	Introduction to Sociology	
STAT 1000	Basic Statistical Analysis 1	3
TXSC 1600	Textiles for Living	3
TXSC 1610	Textiles, Products, and Consumers	3
TXSC 2500	Preparation for Product Development	1
TXSC 2600	Textiles for Apparel End Uses	3
TXSC 2610	Textiles for Non Apparel End Uses	3
TXSC 2620	Consumer and Organizational Behaviour toward Textile Products	3
TXSC 2630	Pattern Development in an Industrial Environment	3
TXSC 3600	Global Apparel and Textiles Trade	3
TXSC 3610	Product Standards and Specifications	3
TXSC 3620	Evaluation of Textile Performance	3
TXSC 3630	Line Planning and Visual Communication	3
TXSC 3640	Pattern Development in a Computer Aided Design Environment	3
TXSC 3650	Production of Textile Products	3
TXSC 4600	Information Age and the Textiles Supply Chain	3
TXSC 4610	Integrative Project	6
TXSC 4620	Colour Management	3
TXSC 4630	Quality Assurance Systems	3
	Department Electives	9
	Free Electives	24

4.12.2 Textile Development Stream

Course No. Credit Hours

CHEM 1300	University 1 Chemistry: Structure and Modelling in Chemistry	3
CHEM 1310	University 1 Chemistry: An Introduction to Physical Chemistry	3
CHEM 2210	Introductory Organic Chemistry 1: Structure and Function	3
CHEM 2220	Introductory Organic Chemistry 2: Reactivity and Synthesis	3
FMLY 1010	Human Development in the Family	3
HMEC 2030	Human Ecology: Perspectives and Communication	3
HMEC 2050	Introduction to Research in Human Ecology	3
HMEC 3100	Communication for Professional Practice	3
HNSC 1210	Nutrition for Health and Changing Lifestyles	3
PERS 1200	Physical Activity, Health and Wellness	3
PSYC 1200	Introduction to Psychology	6
or	or	
SOC 1200	Introduction to Sociology	
STAT 1000	Basic Statistical Analysis 1	3
STAT 2000	Basic Statistical Analysis 2	3
TXSC 1600	Textiles for Living	3
TXSC 1610	Textiles, Products, and Consumers	3
TXSC 2600	Textiles for Apparel End Uses	3
TXSC 2610	Textiles for Non Apparel End Uses	3
TXSC 2620	Consumer and Organizational Behaviour toward Textile Products	3
TXSC 3500	Textiles for the Healthcare Sector	3
TXSC 3610	Product Standards and Specifications	3
TXSC 3620	Evaluation of Textile Performance	3
TXSC 4500	Advanced Textiles for the Healthcare Sector	3
TXSC 4610	Integrative Project	6
TXSC 4620	Colour Management	3
TXSC 4630	Quality Assurance Systems	3

Engineering Sciences Option

ENG 1430	Design in Engineering	4
or	or	
ENG 1440	Introduction to Statics	4
	Choose 24 credit hours from the following list of Engineering courses:	24
BIOE 2580	Biosystems Engineering Design Trilogy 1	4
BIOE 3590	Mechanics of Materials in Biosystems	4
CIVL 2800	Solid Mechanics	4
ENG 1430	Design in Engineering	4
ENG 1440	Introduction to Statics	4
MECH 2270	Principles of Engineering Materials	4
MECH 2290	Manufacturing Engineering	3
MECH 2300	Introduction to Production and Manufacturing	3
MECH 3540	Modern Engineering Materials	4
	Department Electives	3
	Free electives	12

Microbiological Sciences Option

BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interaction	3
MBIO 2100	General Microbiology A	3
MBIO 2360	Biochemistry 1: Biomolecules and an Introduction to Metabolic Energy	3
MBIO 2370	Biochemistry 2: Catabolism, Synthesis, and Information Pathways	3
MBIO 3010	Mechanism of Microbial Disease	3
	Department Electives	3
	Free electives	15

Exercise and Sports Science Option

BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Diversity, Function and Interaction	3
KIN 2320	Human Anatomy	3
KIN 2330	Biomechanics	3
KIN 3470	Exercise Physiology	3
BIOL 1412	Physiology of the Human Body	3
	Textile Sciences Department Electives	3
	Free electives	18

4.13 Textile Sciences Minor

A minor in Textile Sciences is offered by the Department of Textile Sciences. Students must complete 18 credit hours, distributed as follows: A maximum of six (6) credit hours in Textile Sciences at the 1000 level, and at least three (3) credit hours in Textile Sciences at the 2000 level, and at least three (3) credit hours in Textile Sciences at the 3000 or 4000 level, with no more than 6 credit hours at the 1000 level.

Students must check with their home Faculties to see if the Textile Sciences minor is available in their programs.

4.14 Interfaculty Option in Aging

An Option in Aging is offered by and in the following faculties: Arts, Human Ecology, Nursing, Kinesiology and Recreation Management and Social Work.

To complete the option, students in Human Ecology must complete each of the following requirements:

- HMEC 2650 or REC 2650 or SWRK 2650, The Social Aspects of Aging;
- NURS 2610 or KIN 2610, Health and Physical Aspects of Aging;
- At least three credit hours of professional/discipline specific applied work on aging within the student's department of registration (a list of courses is available in the general office); and,
- An additional nine credit hours of aging-related courses from the participating units; a list is available in the General Office. Upon completion of these requirements, a "comment" will be added to the student's transcript.

Further information is available from the General Office of Human Ecology.

4.15 The Minor in Management

A Management Minor is offered by the Asper School of Business. Human Ecology students may complete this Minor as part of the electives portion of their programs. The Minor will consist of any 18 credit hours of Management courses. Students must meet prerequisites for all courses. Further information is available from the Human Ecology General Office.

4.16 The Voluntary Minor

Students in the Faculty of Human Ecology may declare and complete a Minor from departments and interdisciplinary programs in which a Minor is offered. The Family Social Sciences Minor and the Minor in Human Nutrition and Metabolism are available through the Faculty of Human Ecology. Information about Minors in programs other than Human Ecology is found in the appropriate description of departmental/school/faculty program offerings in the Undergraduate Calendar.

Completion of the Minor is entirely optional. Students may not, however, declare both their Major and Minor from the same department/interdisciplinary program. No course may be used as part of a prescribed program in the Faculty of Human Ecology and also be part of a prescribed Minor. For example, if a course in Chemistry is part of a student's degree requirements in the Faculty of Human Ecology, it cannot be used as part of a Minor in another program. Completion of a Minor may require that a student take more than the minimum number of credit hours for graduation.

SECTION 5: Course Descriptions

5.1 Family Social Sciences

FMLY 1010 Human Development in the Family Cr.Hrs.3 (Formerly 062.101) Introductory survey of key aspects of human development processes within the family context from a life span perspective. Not to be held with NURS 1260 (049.126).

FMLY 1012 Introduction to Social Development Cr.Hrs.3 This course is an introduction to Social Development with a particular emphasis on families and communities. Social development is concerned with the advancement of the common good, the effective management of social problems, the meeting of human needs, and the equitable distribution of society's resources. As such, this course explores the social factors and conditions that promote or hinder social development and how this affects the well-being of individual, families, and communities in contemporary societies. Not to be held with 062.172 or FMLY 1900.

FMLY 1020 Family Issues across the Lifespan Cr.Hrs.3 (Formerly 062.102) Introduction to contemporary issues involving families across the lifespan. Topics include mate selection, marriage, parenthood, divorce, lone-parent families, work-family balance, family violence, families and older persons, and poverty in families. Not to be held with 062.114.

FMLY 1420 Family Management Principles Cr.Hrs.3 (Formerly 062.142) An introductory course that uses an ecosystem perspective to consider resources, decision-making, planning, implementing, evaluating and communication within family contexts. Applications to balancing work and family, individual and family stress, family finance, environmental issues, and the use of time and human resources will be made. Not to be held with the former 062.142.

FMLY 2012 Development, Conflict, and Displacement Cr.Hrs.3 The course is an introduction to development, conflict, and displacement as they affect individuals, families and communities. Specifically, this course examines the current phenomenon of induced displacement due to social conflicts, natural disasters, or uneven development in developing countries. Students will examine concepts and issues arising from induced displacement and explore community based responses to this problem. Not to be held with FMLY 2900. Prerequisite: 1012 or consent of the instructor.

FMLY 2350 Multicultural Family Issues Cr.Hrs.3 (Formerly 062.235) A focus on multicultural issues that affect family interaction in Canada, which is designed to prepare students for professional practice. Emphasizes dominant/minority family relationships, internal family dynamics of minority families, social policies directed toward creating and maintaining multiculturalism and diversity education for future professionals. Manitoba Aboriginal family life is accentuated. Prerequisite: FMLY 1020 (062.102) or equivalent.

FMLY 2400 Family Financial Health Cr.Hrs.3 A survey of topics that have an impact on the financial health of Canadian families, including personal money management, mortgage financing, credit and debt, educational and retirement planning, taxation, insurance, savings and investments. The course prepares students to help families maximize resources and increase their financial literacy. Prerequisite: FMLY 1420 (062.142). Not to be held with the former FMLY 2070 (062.207).

FMLY 2600 Foundations of Childhood Developmental Health Cr.Hrs.3 (Formerly 062.260) This course examines implications of theory and research in child development for promoting developmental health. Laboratory component focuses on working with children and evaluating effects of developmental progress. Prerequisite: Minimum grade of C in FMLY 1010 (062.101). Limited enrolment.

FMLY 2800 Family Violence Cr.Hrs.3 (Formerly 062.280) A survey of the extent and nature of various forms of family violence across the life course. Topics include physical and sexual child abuse, sibling violence, partner violence, and elder abuse. Emphasis is on prevalence, incidence, causes, consequences and solutions. Prerequisite: FMLY 1010 (062.101) or FMLY 1020 (062.102) or PSYC 1200 (017.120) or SOC 1200 (077.120).

FMLY 3012 Social Development Policies Cr.Hrs.3 This course is a survey of social development theories that have influenced the study and practice of development since the 1950s. It addresses the question of why theories of social development are necessary and why different theories emerged at particular times in history. This course examines explanations of development and underdevelopment as they impact on individuals, families and communities. Not to be held with FMLY 4900. Prerequisite: FMLY 1012.

FMLY 3220 Death and the Family Cr.Hrs.3 (Formerly 062.322) An examination of dying and death of family members throughout the family life cycle. Specific topics included are the meaning of death, the process of dying, caring relationships, grief and bereavement. Prerequisite: FMLY 1020 (062.102) or PSYC 1200 (017.120) or SOC 1200 (077.120).

FMLY 3240 Families in Later Years Cr.Hrs.3 (Formerly 062.324) An investigation of family issues in the later years of life, such as housing, intergenerational relations, adjustment to retirement, sibling relations, grandparenting, death. Students may not hold credit for FMLY 3240 (062.324) and the former 062.321. Prerequisites: [FMLY 1010 (062.101) and FMLY 1020 (062.102)] or PSYC 1200 (017.120) or SOC 1200 (077.120).

FMLY 3330 Parenting and Developmental Health Cr.Hrs.3 (Formerly 062.333) Examines parenting and its influence on developmental health, with consideration of change across time, the context in which parenting occurs, and the effect of the par-

ent-child relationship on developmental health. *Prerequisites:* FMLY 1020 (062.102) and completion of 54 credit hours. Not to be held with 062.435.

FMLY 3400 Families as Consumers Cr.Hrs.3 An examination of the factors that influence the consumer behaviour of individuals and families across the life course, with particular attention to the situation of vulnerable consumers. Theory, education, policy and practice are related to contemporary consumer issues and the impact of consumption behaviour on the environment. *Prerequisites:* FMLY2400 or FMLY 2070 (062.207) and ECON 1200 (018.120) or ECON 1210 (018.121) or ECON 1220 (018.122). Not to be held with the former FMLY 3450 (062.345).

FMLY 3470 Selected Studies in the Family I Cr.Hrs.3 (Formerly 062.347) The opportunity to carry out an individual study in the area of the family of particular interest to the student. When enrolment warrants, the department may offer selected topics in a regular course format. *Prerequisite:* consent of instructor.

FMLY 3600 Adolescents in Families and Society Cr.Hrs.3 (Formerly 062.360) This course is designed to help students understand the nature of adolescent relationships with their families in communities. The application of theory and research on adolescent relationships to professional practice with families and communities is emphasized. *Prerequisite:* FMLY 2600 (062.260) and completion of 54 credit hours.

FMLY 3610 Developmental Health of Children and Youth Cr.Hrs.3 (Formerly 062.361) Population health gradients are largely set early in life and are affected by the environments in which children live. This course examines current knowledge of the social determinants of child and adolescent health. Consideration is given to policy implications, including directions for program development and evaluation. Not to be held with the former 062.450. *Prerequisite:* FMLY 2600 (062.260). Not to be held with 062.450.

FMLY 3780 Introduction to the Development of Programs for Children and Families Cr.Hrs.3 (Formerly 062.378) An introduction to the theory and practice of program development with special emphasis on programs for children and families. The course will cover techniques for conducting need assessments, as well as the process of planning and implementing programs to address community need. *Prerequisite:* HMEC 2050 (028.205).

FMLY 3790 Introduction to the Evaluation of Programs for Children and Families Cr.Hrs.3 (Formerly 062.379) An introduction to the theory and practice of program evaluation with special emphasis on child and family programs. Considers the purpose of evaluation, types of evaluation, evaluation design and analysis, and the evaluation process. *Prerequisite:* HMEC 2050 (028.205).

FMLY 3800 Conflict Resolution in the Family Cr.Hrs.3 (Formerly 062.380) Students will examine the nature and development of conflict in family relationships throughout the life span. Implications of conflict for the quality of family relationships and individual development will be addressed. *Prerequisite:* FMLY 2800 (062.280) and completion of 54 credit hours.

FMLY 3802 Intimate Partner Violence Cr.Hrs.3 A critical examination of theory and research on violence in intimate relationships. Topics will include violence in dating, common-law, marital, ex-partner and same-sex relationships. *Prerequisite:* FMLY 2800.

FMLY 3804 Violence Against Children in the Family Cr.Hrs.3 An in-depth study of the dynamics and effects of the range of forms of violence against children occurring within families. Approaches to intervention and prevention will be examined. *Prerequisite:* FMLY 2800 (062.280).

FMLY 4012 Theories of Social Development Cr.Hrs.3 This course examines the formulation of social development policies and the impact of these policies on the well-being of individuals, families, and communities. The course uses a seminar format to foster students' capacity to understand and examine policy issues. Students will develop skills in understanding, analyzing, and formulating social development policies. Actual social development case studies will be evaluated and alternative family and community oriented policies discussed. Not to be held with FMLY 3900. *Prerequisite:* FMLY 3012.

FMLY 4300 Field Experience Cr.Hrs.6 (Formerly 062.430) Provide students with field experience in a supervised setting. The course consists of 120 hours of supervised work in an assigned setting and seminar time with peers and field experience coordinator. Grade is pass/fail. *Prerequisite:* 84 credit hours and consent of instructor. Not to be held with 062.436 or 062.455 or 062.456 or 062.457.

FMLY 4330 Management of Family Stress Cr.Hrs.3 (Formerly 062.433) Theories which influence family behaviour during stress are discussed, and coping/managerial skills to mitigate the effects of the stressors are examined. Stress management advice from agencies and in educational settings is analyzed. *Prerequisite:* FMLY 1020 (062.102).

FMLY 4400 Family Economics: Poverty and Wealth Cr.Hrs.3 Analysis of principles, major problems and trends in the economic welfare of individuals and families in both the Canadian and global economies. Emphasis on families and their relationships to the economy such as income inequality, family economic policy, human capital, poverty and resource distribution within families. *Prerequisites:* [FMLY 2400 or FMLY 2070 or 062.207] and [one of ECON 1200 (018.120) or ECON 1210 (018.121) or ECON 1220 (018.122)]. Not to be held with the former FMLY 4450 (or 062.445).

FMLY 4460 Family Financial Counselling Cr.Hrs.3 (Formerly 062.446) Theory and practice of financial counselling of debt-burdened families. Debt analysis. Appraisal of alternate solutions and of legal and psycho-social factors in terms of family well-being and financial capacity. *Prerequisite:* FMLY 3400 or 3450 or 062.345.

FMLY 4470 Selected Studies in the Family II Cr.Hrs.3 (Formerly 062.447) The opportunity to carry out advanced study in the area of the family of particular interest to the student. When enrolment warrants, the department may offer selected topics in a regular course format. *Prerequisite:* consent of instructor.

FMLY 4480 Work and Family Issues Cr.Hrs.3 (Formerly 062.448) An exploration of the interface between paid work and unpaid work and families in the Canadian and international contexts. Topics include demographic trends; parenting, child and elder care; management of work-family conflict; development of workplace solutions; and social policy implications. *Prerequisite:* [FMLY 2400 or 2070 or 062.207] and 84 credit hours.

FMLY 4600 Risk and Resilience in Behavioural and Social Development Cr.Hrs.3 (Formerly 062.460) The development of behavioural and social difficulties are examined from a risk and resilience perspective. The interaction of factors at all levels of the human ecological system are considered in terms of their impact on increasing risk and/or building resilience in children and youth. *Prerequisite:* FMLY 2600 or 062.260. Not to be held with 062.437.

FMLY 4602 Family Relationships, Health and Well-being Cr.Hrs.3 This course provides an in depth survey of the interaction between family relationship dynamics, health and well-being across the life course. The influence of family members on health-related behaviours is reviewed and preventive family-based interventions are evaluated. *Prerequisite:* FMLY 3600 (or 062.360).

FMLY 4800 Senior Seminar in Family Violence and Conflict Resolution Cr.Hrs.3 (Formerly 062.480) Advanced study in the areas of family violence and/or conflict resolution. Special emphasis is placed upon current research and/or practice. *Prerequisite:* FMLY 3800 (062.380) and completion of 72 credit hours.

5.2 General Human Ecology

HMEC 2030 Human Ecology: Perspectives and Communication Cr.Hrs.3 (Lab Required)(Formerly 028.203) Theory and practice of written and oral communication set within the context of the subject matter of areas of Human Ecology. Students may not hold credit for HMEC 2030 (028.203W) and 028.103 and 028.204.

HMEC 2050 Introduction to Research in Human Ecology Cr.Hrs.3 (Formerly 028.205) A general introduction to research issues in natural and social sciences and their application in the various subject areas in Human Ecology. *Prerequisites:* [HMEC 2030 (028.203W or 028.103W)] and STAT 1000 (005.100).

HMEC 2650 The Social Aspects of Aging Cr.Hrs.3 (Formerly 028.265) An examination of the social aspects of aging. Emphasis on understanding the aging process as a life transition involving adaptation through interaction with social and physical environments. Students may not hold credit for HMEC 2650 (028.265) with SWRK 2650 (047.265) or REC 2650 (123.265).

HMEC 3100 Communication for Professional Practice Cr.Hrs.3 (Formerly 028.310) Advanced communication skills as applied to professional practice in the fields of Human Ecology. Students may not hold credit for HMEC 3100 (028.310) and 028.204. *Prerequisites:* 39 credit hours in a Human Ecology program and HMEC 2030 (028.203 or 028.103).

HMEC 3500 Developmental Health Cr.Hrs.3 This course examines how social inequalities affect population health across the lifespan. It is guided by the determinants of health with a particular focus on socioeconomic variables. Local, provincial, national and international perspectives provide meaningful insight into the roles of equality and inequality. *Prerequisite:* PSYC 2250 (017.225) or HMEC 2050 (or 028.205).

HMEC 4060 Special Studies in Human Ecology Cr.Hrs.3 (Formerly 028.406) Independent study/and/or directed research within a specialized area. Before approval is granted, the student must submit a detailed proposal of the study. *Prerequisite:* Permission of advisor.

HMEC 4090 Practicum in Human Ecology Cr.Hrs.6 (Formerly 028.409) This is a partnership among the university, field supervisor, and the student. It provides an opportunity for students to work in a supervised setting (e.g., health, social services or business) in which home economists have a professional role and responsibility. Students also have in-class experiences and assignments with an academic instructor. *Prerequisite:* 84 credit hours in the program and consent of instructor.

5.3 Human Nutritional Sciences

HNSC 1100 Nutrition for Health Living Cr.Hrs.3 An introduction to nutrition and practical approaches for healthy diets and disease prevention. *Prerequisites:* Enrolment in the Aboriginal Community Wellness Diploma program. Not to be held with HNSC 1210.

HNSC 1200 Food: Facts and Fallacies Cr.Hrs.3 (Formerly 030.120) 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. Not to be held with 030.119.

HNSC 1210 Nutrition for Health and Changing Lifestyles Cr.Hrs.3 (Formerly 030.121) 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. Not to be held with 030.117 or 030.323.

HNSC 2130 Nutrition Through the Life Cycle Cr.Hrs.3 (Formerly 030.213) Examination of nutritional needs throughout the life cycle, the nutritional concerns of dif-

ferent age groups and the development of healthy eating practices. Not to be held with 030.304. *Prerequisite:* HNSC 1210 (030.121).

HNSC 2140 Basic Principles of Human Nutrition Cr.Hrs.3 (Formerly 030.214) The scientific principles underlying nutrient function and dietary requirements. *Prerequisites:* A grade of C or higher in [CHEM 2770 or MBIO 2770 (002.277 or 060.277) or CHEM 2360 or MBIO 2360 (002.236 or 060.236)] and [HNSC 1210 (030.121) and HNSC 1200 (030.120)] or [FOOD 2500 (078.250)]. Not to be held with the former 030.325.

HNSC 2150 Composition, Functional and Nutritional Properties of Foods Cr.Hrs.3 (Formerly 030.215) Food composition, food market forms, food composition data for nutritional assessment and labelling. *Prerequisites:* HNSC 1200 (030.120) and HNSC 1210 (030.121) and [CHEM 1320 or CHEM 1310 (002.132 or 002.131)].

HNSC 2160 Principles of Food Preparation and Preservation Cr.Hrs.3 (Lab Required)(Formerly 030.216) Food preparation, preservation, handling and storage; quality and safety implications; scientific basis for culinary practice; use and application of equipment. *Prerequisite:* HNSC 1200 (030.120) and [CHEM 1320 or CHEM 1310 (002.132 or 002.131)]. Not to be held with 030.211 or 030.324.

HNSC 3260 Food Quality Evaluation Cr.Hrs.3 (Formerly 030.326) 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. *Prerequisites:* [HNSC 2160 (030.216) or FOOD 3010 (078.301)] and STAT 2000 (005.200).

HNSC 3300 Vitamins and Minerals in Human Health Cr.Hrs.3 (Formerly 030.330) The physiological importance of vitamins and minerals in the human body, including factors affecting dietary requirements, metabolism and roles in disease progression and prevention. *Prerequisites:* [CHEM/MBIO 2780 (002.278 or 060.278) or CHEM/MBIO 2370 (002.237 or 060.237)] and [HNSC 2140 (030.214) and BIOL 1412 (ZOOL 1330 or 022.133 or 022.254)]. Not to be held with the former 030.426.

HNSC 3310 Macronutrients and Human Health Cr.Hrs.3 (Formerly 030.331) Macronutrient functions and metabolic roles in human health, including the prevention and pathogenesis of various diseases. *Prerequisites:* [CHEM/MBIO 2780 (002.278 or 060.278) or CHEM/MBIO 2370 (002.237 or 060.237)] and [HNSC 2140 (030.214) and BIOL 1412 (ZOOL 1330 or 022.133 or 022.254)]. Not to be held with former 030.325.

HNSC 3320 Nutrition Education and Dietary Change Cr.Hrs.3 (Formerly 030.332) Theoretical and practical aspects influencing dietary change at the individual and population level, with emphasis on nutrition education. *Prerequisites:* PSYC 1200 (017.120) or SOC 1200 (077.120) and HNSC 2130 (030.213) and HNSC 2140 (030.214).

HNSC 3330 Ingredient Technology for Designed Foods Cr.Hrs.3 (Formerly 030.333) Chemical and functional properties of ingredients and their application in designed foods: low fat, low calorie, high fibre, high energy and innovative food products. *Prerequisites:* [CHEM/MBIO 2780 (002.278 or 060.278) or CHEM/MBIO 2370 (002.237 or 060.237) and HNSC 2150 (030.215)] or [CHEM 2220 (002.222) and FOOD 2500 (078.250)].

HNSC 3342 Management for Food and Nutrition Professionals Cr.Hrs.3 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. Not to be held with HNSC 3340 (030.334). *Prerequisites:* HNSC 1200 (030.120) and [GMGT 2030 (027.203) or GMGT 2070 (027.207) or GMGT 2080 (027.208)].

HNSC 3350 Culture and Food Patterns Cr.Hrs.3 (Lab Required) A study of the cultural, sociological and psychological aspects of food patterns and behaviour. Not to be held with 030.329. *Prerequisites:* [PSYC 1200 (017.120) or SOC 1200 (077.120)] and HNSC 1200 (030.120) and HNSC 1210 (030.121).

HNSC 3630 Food Geographies Cr.Hrs.3 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 as HNSC 3630. *Prerequisite:* A grade of C or better in GEOG 1280, GEOG 1281 or GEOG 1200, or permission of department head.

HNSC 4120 Senior Thesis Cr.Hrs.3 (Formerly 030.412) The preparation and presentation of a report based on a survey of the literature or on a laboratory investigation of an approved topic. *Prerequisite:* 84 credit hours in the Human Nutritional Sciences program or the Minor in Human Nutrition and Metabolism. Application required. Enrolment limited.

HNSC 4122 Research Project in Human Nutritional Sciences Cr.Hrs.6 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 030.412.

HNSC 4140 Quantity Food Production and Management Cr.Hrs.3 (Lab Required)(Formerly 030.414) Menu planning. Food costing. Experience in standard

methods of institutional food production and service. *Prerequisites:* HNSC 3342 (HNSC 3340 or 030.334) and HNSC 2160 (030.216) or consent of instructor. Additionally, students must complete the Food Handlers Certificate Program and must submit the form to the Department by June 15th in order to be permitted to enter HNSC 4140.

HNSC 4160 Seminar in Foods and Nutrition Cr.Hrs.3 (Formerly 030.416) A critical study of research in the field of foods and nutrition; oral and written reports required. Restricted to 4th year majors in the Department. *Prerequisites:* completion of 84 credit hours in the HNS program and HMEC 3100 (028.310).

HNSC 4250 Selected Topics in Foods Cr.Hrs.3 (Formerly 030.425) Recent developments in food research, both basic and applied. *Prerequisite:* consent of instructor.

HNSC 4260 Selected Topics in Human Nutrition Cr.Hrs.3 (Formerly 030.426) Recent developments in human nutrition research. *Prerequisite:* consent of instructor.

HNSC 4270 Sensory Evaluation of Food Cr.Hrs.3 (Lab Required)(Formerly 030.427) 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. *Prerequisites:* [HNSC 2160 (030.216) or FOOD 3010 (78.301) or HNSC 3240 (030.324)] and STAT 2000 (005.200) or equivalent.

HNSC 4280 Food Product Development Cr.Hrs.3 (Formerly 030.428) This course focuses on food industry product development procedures. Emphasis will be on application of basic knowledge of foods and food processing in designing a new product. *Prerequisites:* MKT 2210 (118.221) and STAT 2000 (005.200) and [one of FOOD 3010 (078.301) or HNSC 3330 (030.333)]. Not to be held with FOOD 4510 (078.451).

HNSC 4290 Food, Nutrition and Health Policies Cr.Hrs.3 (Formerly 030.429) Principles and applications of policies, regulations and legislation in the areas of food and health that address nutrition and health problems of populations. Not to be held with the former 030.328. *Prerequisites:* HMEC 2050 (028.205) and HNSC 2130 (030.213) and HNSC 2150 (030.215) and STAT 2000 (005.200).

HNSC 4300 Community Nutrition Intervention Cr.Hrs.3 (Formerly 030.430) Principles of planning and evaluating nutrition related interventions. Examples of community needs assessments, program planning strategies and types of program evaluation will be examined. Not to be held with 030.411. *Prerequisite:* HNSC 3320 (030.332).

HNSC 4310 Nutrition and the Elderly Cr.Hrs.3 (Formerly 030.431) The role of nutrition in health promotion and disease prevention during aging. *Prerequisites:* HNSC 3310 (030.331) and HNSC 3320 (030.332). *Prerequisite or corequisite:* HNSC 3300 (030.330). Offered in alternate years, opposite HNSC 4340.

HNSC 4320 Nutrition Management of Disease States Cr.Hrs.3 (Lab Required)(Formerly 030.432) Nutritional assessment and dietary management of acute and chronic disease states. *Prerequisite or corequisite:* HNSC 3300 (030.330) and HNSC 3310 (030.331) and HNSC 3320 (030.332). Not to be held with 030.423 or 030.424.

HNSC 4340 Maternal and Child Nutrition Cr.Hrs.3 (Formerly 030.434) The role of nutrition in normal human development from conception through childhood. *Prerequisites:* HNSC 3310 (030.331) and HNSC 3320 (030.332). *Prerequisite or corequisite:* HNSC 3300 (030.330). Offered in alternate years opposite HNSC 4310.

HNSC 4350 Nutrition in Exercise and Sport Cr.Hrs.3 (Formerly 030.435) 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. *Prerequisites:* HNSC 1210 (030.121) and PHED 3430 (057.343) or KIN 3470 or PHED 3470 or BIOL 1412 (ZOOL 1330 or 022.133).

HNSC 4362 Nutrition Option Practicum Cr.Hrs.6 Practical applications of nutrition principles in a variety of public service and research applications. *Prerequisites:* completion of 84 credit hours in the Human Nutritional Sciences program with two of the following courses: HNSC 3300, HNSC 3310, HNSC 3320, and HNSC 3330. Application to the department is required. Limited enrolment.

HNSC 4364 Foods Industry Option Practicum Cr.Hrs.6 This course involves supervised application of food quality, safety, and management principles in a commercial or government setting. Requirements include 360 hours of work related to the field experience. *Prerequisites:* Completion of 84 credit hours in Human Nutritional Sciences Food Industry Option including HNSC 3260, HNSC 3330, FOOD 4150 and one of GMGT 2030, GMGT 2070 or GMGT 2080. Application to department is required. Limited enrolment.

HNSC 4540 Functional Foods and Nutraceuticals Cr.Hrs.3 (Formerly 030.454) This course will examine the bioactive components of functional foods and nutraceuticals, their sources, chemistry, process technology, efficacy, safety and regulation. *Prerequisite:* [CHEM 2770 or MBIO 2770 (002.277 or 060.277) or CHEM 2360 or MBIO 2360 (002.236 or 060.236)]. Not to be held with FOOD 4540 (078.454).

HNSC 4600 Practice-based Research in Human Nutritional Sciences Cr.Hrs.3 A practice-based research project relevant to dietetic practice. *Prerequisite:* Registration in the 4th year of the Human Nutritional Sciences program and any two of HNSC 3300, HNSC 3320 or HNSC 3330, and instructor permission required. Enrolment limited to students pre-selected by the Manitoba Partnership Dietetic Education Program. Not to be held with HNSC 4120 or HNSC 4122 (or 030.412).

5.4 Interdisciplinary Health Degree Program

HEAL 2600 Integration of Health Determinants of Individuals Cr.Hrs.3 Students study, integrate and apply the determinants that affect the health of individuals throughout the life span to selected case or learning scenarios. The case or learning

scenarios present a variety of issues in the delivery of health-related services that are intended to benefit individual health. *Prerequisites:* One of CHEM 1300 (002.130) or BIOL 1020 (071.102) or STAT 1000 (005.100); and one of PSYC 1200 (017.120) or SOC 1200 (77.120) or consent of instructor.

HEAL 3600 Integration of Health Determinants for Communities Cr.Hrs.3 Students study, integrate and use community level determinants of population health in selected case or learning scenarios. These cases present a variety of issues in the design of health related services that are intended to benefit population health. *Prerequisites:* A grade of C in HEAL 2600 and 39 credit hours in the Curriculum for Interdisciplinary Health or consent of instructor. Restricted to students in Health Sciences and Health Studies.

HEAL 4600 Integration of Health Determinants for Canada and World Cr.Hrs.3 Students use selected case or learning scenarios to study the determinants of population health that depend on decision making in governmental or international agencies. The case scenarios present a variety of issues in the governance and management of population health. *Prerequisites:* A grade of C+ in HEAL 3600 and 57 credit hours in the Curriculum for Interdisciplinary Health or consent of instructor. Restricted to students in Health Sciences and Health Studies.

HEAL 4610 Health Studies Capstone Cr.Hrs.3 Students will explore selected topics from the social sciences to synthesize and evaluate actions that can affect the health of people. The course summarizes the social sciences knowledge that forms the basis for all health related professional work. *Prerequisite:* A grade of C+ in HEAL 3600 and 57 credit hours in the Curriculum for Interdisciplinary Health or consent of instructor. Restricted to students in Health Sciences and Health Studies.

HEAL 4620 Health Sciences Capstone Cr.Hrs.3 Students will explore selected topics from the biological sciences to synthesize and evaluate actions that can affect the health of people. The course summarizes the biological science knowledge that forms the basis for all health related professional work. *Prerequisite:* A grade of C+ in HEAL 3600 and 57 credit hours in the Curriculum for Interdisciplinary Health or consent of instructor. Restricted to students in Health Sciences and Health Studies.

5.5 Textile Sciences

TXSC 1600 Textiles for Living Cr.Hrs.3 (Lab Required)(Formerly 064.160) This course covers the fundamental knowledge of textiles in a product development context. It includes properties of fibres, yarns and fabrics; characteristics of natural and manufactured fibres; chemical structures of the most commonly used natural and manufactured fibres for apparel and non-apparel end uses; woven, knitted, and non-woven structures; and dyeing and printing. Not to be held with 064.102.

TXSC 1610 Textiles, Product, and Consumers Cr.Hrs.3 (Formerly 064.161) This course covers the structure and characteristics of the natural and manufactured fibre sectors; downstream industries which transform natural or manufactured fibres into intermediate goods; the manufacturing industry which transforms intermediate supplies to final products; and the retailing industry which distributes final textile products to consumers or organizations.

TXSC 2420 History of Textiles Cr.Hrs.3 (Formerly 064.242) Development and diffusion of textile fibres, fabrics, and finishes from prehistoric times to present. May not hold with 064.332.

TXSC 2500 Preparation for Product Development Cr.Hrs.1 Designed for students with little or no background in textile product assembly or for students who require a refresher course. This course provides an orientation to textile product assembly equipment, construction, techniques, and terminology. Students who do not meet the minimum standard in a challenge test must pass this course before they will be permitted to continue in TXSC 2630. For Textile Sciences students only. NOTE: The credit associated with this course will not be counted toward the minimum credit hour requirements of the Textile Sciences degree. (Pass/fail grade).

TXSC 2600 Textiles for Apparel End Uses Cr.Hrs.3 (Formerly 064.260) Theories of product development and their applications to creating textile products for apparel end uses including fashion apparel; apparel for consumers throughout the lifespan, including childhood, young adults, older adults; apparel for consumers with disabilities; apparel for professional sports and recreation; and apparel for the healthcare sector. *Prerequisites:* [064.102] or [a minimum grade of C in TXSC 1600 (064.160) and TXSC 1610 (064.161) and 3 credit hours of 100-level chemistry].

TXSC 2610 Textiles for Non Apparel End Uses Cr.Hrs.3 (Formerly 064.261) Product development theories from engineering and management perspectives to illustrate the development of textile fibres, fabrics, and products for the industrial and healthcare sectors. Industrial uses of textiles include the automotive and the aerospace industries. End uses for the healthcare sector include textiles or textile products for rehabilitation, protection from bacteria, healing of wounds, and implantable textiles. Assessment of selected fabric properties such as strength, flammability, colourfastness and air permeability will be introduced. *Prerequisites:* [064.102] or [a minimum grade of C in TXSC 1600 (064.160) and TXSC 1610 (064.161) and 3 credit hours of 100-level chemistry].

TXSC 2620 Consumer and Organizational Behaviour Toward Textile Products Cr.Hrs.3 (Formerly 064.262) Theories and practices of consumer and organizational decision making with respect to textile products. *Prerequisites:* TXSC 2600 (064.260) or TXSC 2610 (064.261). Not to be held with MKTG 3230 (118.323).

TXSC 2630 Pattern Development in an Industrial Environment Cr.Hrs.3 (Lab Required)(Formerly 064.263) This course covers the process of communicating product design through pattern development. Students will learn the terminologies of pattern development, techniques of pattern development and manipulation, and the importance of anthropometry in creating apparel to suit its end uses. *Prerequisite:* TXSC

2600 (064.260). Additionally, students must complete TXSC 2500. TXSC 2500 is not required if a minimum standard is met on the challenge test. Continuation in TXSC 2630 is dependent on successful completion of TXSC 2500 or the challenge test. Not to be held with the former 064.348.

TXSC 3470 Cr.Hrs.3 (Formerly 064.347) Directed study in a specific area of clothing and/or textiles. *Prerequisite:* consent of instructor and 60 credit hours in the Clothing and Textiles program.

TXSC 3500 Textiles for the Healthcare Sector Cr.Hrs.3 (Formerly 064.350) This course covers the recent developments of a range of technical textiles for the healthcare sector, including implantable textiles, barrier fabrics, and smart textiles. *Prerequisite:* TXSC 2610 (064.261) and [HMEC 2050 (028.205) or any 2000-level or 3000-level research method course] and [CHEM 1000 (or 002.100 or PO13) or CHEM 1300 (002.130 or PO14)]. Not to be held with 064.347 which was offered from September 2004 to September 2005/2006.

TXSC 3600 Global Apparel and Textiles Trade Cr.Hrs.3 (Formerly 064.360) Covers the role of apparel and textiles trade in economic growth and development of industrialized, transitional, and developing nations. It will take into account the evolution of trade relations among apparel and textile producing countries and regions. *Prerequisite:* TXSC 2620 (064.262) and [ECON 1200 (018.120) or ECON 1210 (018.121) and ECON 1220 (018.122)] and HMEC 2050 (028.205). Not to be held with the former 064.340.

TXSC 3610 Product Standards and Specifications Cr.Hrs.3 (Formerly 064.361) Challenge students to apply their knowledge and skills gained in TXSC 2600, TXSC 2610 and TXSC 2620 to develop textiles and textile product standards and specifications for various forms of product development (e.g., private label, national brands, licensed goods) where there are no known precedents. Students will learn the process of developing product standards by working on case studies. Textile products will include apparel and non-apparel end uses. *Prerequisites:* TXSC 3620 (064.362) and HMEC 2050 (028.205). Not to be held with 064.220 or 064.221 or 064.337.

TXSC 3620 Evaluation of Textile Performance Cr.Hrs.3 (Lab Required)(Formerly 064.362) Covers the serviceability of textile products for apparel and non apparel end uses. Students will learn to carry out commonly used textile testing methods for assessing durability, comfort, aesthetic properties and safety. *Prerequisites:* TXSC 2600 (064.260) and TXSC 2610 (064.261). Not to be held with the former 064.220 or 064.221 or 064.337.

TXSC 3630 Line Planning and Visual Communication Cr.Hrs.3 (Formerly 064.363) Covers the steps in developing a line of textile products for apparel and home furnishings end uses and the techniques of communicating product information to relevant members of the supply chain. Students will learn manual methods and computer aided design solutions to communicate product concepts. *Prerequisite:* TXSC 2630 (064.263). Not to be held with the former 064.225.

TXSC 3640 Pattern Development in a Computer Aided Design Environment Cr.Hrs.3 (Formerly 064.364) This course is a continuation of TXSC 2630. It covers advanced pattern manipulations using an industrial computer aided design system. *Prerequisite:* TXSC 2630 (064.263) and TXSC 3650 (064.365). Not to be held with 064.349.

TXSC 3650 Production of Textile Products Cr.Hrs.3 (Formerly 064.365) Covers the role of production in the product development process. Students will learn the terminology which meets industrial standards, the most commonly used production techniques for apparel and non apparel products, time studies, costing, development of specifications, manufacturing systems, and selected test methods for quality management. *Prerequisites:* TXSC 2630 and HMEC 2050 (028.205). Not to be held with 064.224 and 064.342.

TXSC 4260 Cr.Hrs.3 (Formerly 064.426) Application of marketing in the textile industries. *Prerequisites:* TXSC 3600 (or 064.340) and MKTG 2210 (118.221).

TXSC 4320 Selected Topics in Clothing and Textiles I Cr.Hrs.3 (Formerly 064.432) Directed study in a specific area of clothing and/or textiles. *Prerequisite:* Consent of instructor and 84 credit hours in the Clothing and Textiles program.

TXSC 4500 Advanced Textiles for the Healthcare Sector Cr.Hrs.3 Covers the latest developments in technical textiles for the healthcare sector and the measurement of attributes which are essential to the performance of textiles for medical or healthcare end uses. *Prerequisites:* TXSC 2600 (064.260) and TXSC 2610 (064.261) and TXSC 3620 (064.362) and TXSC 3500 (064.350) with a minimum grade of C; and CHEM 2220 (022.222) and HMEC 2050 (028.205) with a minimum grade of D.

TXSC 4600 The Information Age and the Textiles Supply Chain Cr.Hrs.3 Covers the evolution of the textile complex from a production orientation to a logistics orientation; the role of information technology in creating or enhancing competitive advantage; the range of technologies used by the textile complex to communicate design, production, and management information throughout the supply chain; decision making process executives go through to decide which types of technology to purchase, how to implement them within the firm, the financial implications, the effects on business-to-business communication, and the effects on business-to-consumer communication. *Prerequisite:* TXSC 3600.

TXSC 4610 Integrative Project Cr.Hrs.6 This is a required course in which students are required to demonstrate their ability to integrate the skills and knowledge accumulated in the program. Specifically, students will solve a specific textile or product development problem which may originate from the students' interests, developed in collaboration with academic staff, or community-based. Reserved for 4th year students in Textile Sciences. *Prerequisite:* TXSC 3610 (064.361) and TXSC 3630 (064.363) and

TXSC 3640 (064.364). Not to be held with the former 064.430 or TXSC 4340 (064.434) or TXSC 4210 (064.421) or TXSC 4310 (064.431).

TXSC 4620 Colour Management Cr.Hrs.3 Covers the basic concepts and principles of colour science, the process of determining seasonal colour palette, colour specification systems, colour notation systems, commercial colour identification systems, the colour approval process in industrial, institutional, and consumer goods settings, colour measurement, and interpretation of colour data. Students will learn the process of preserving colour integrity throughout the supply chain. *Prerequisites:* TXSC 3610 (064.361) and HMEC 2050 (028.205). Not to be held with the former 064.339 or 064.430.

TXSC 4630 Quality Assurance Systems Cr.Hrs.3 Covers the concept of total quality management; the role of total quality management in apparel and textiles; the role of

standard setting agencies in developing standards of product and service quality; management systems such as ISO 9000 and case studies of textiles and apparel firms which have adopted these systems. Students will learn by solving a series of problems presented to them in the format of case studies. *Prerequisites:* TXSC 3650 and TXSC 4620. Not to be held with 064.220 or 064.221 or 064.337.