

Senate  
Senate Chamber  
Room E3-262 Engineering Building  
WEDNESDAY, December 6, 2006  
1:30 p.m.  
Regrets call 474-6892

## AGENDA

### I MATTERS TO BE CONSIDERED IN CLOSED SESSION

1. Report of the Senate Committee on Honorary Degrees

This report will be distributed to members of Senate at the meeting. Documentation will be available for examination by eligible members of Senate the day preceding the Senate meeting in the Office of the University Secretary, Room 312 Administration Building.

### II MATTERS RECOMMENDED FOR CONCURRENCE WITHOUT DEBATE

1. Report of the Senate Committee  
On Curriculum and Course Changes- Part A

Page 17

2. Report of the Senate Committee on Medical Qualifications  
Re: Dr. K.A. Pathak

Page 130

Note: A copy of Dr. Pathak's full *curriculum vitae* is available for inspection by members of Senate in the Office of the University Secretary, Room 312 Administration Building.

### III MATTERS FORWARDED FOR INFORMATION

1. Report of the Senate Committee on Awards

Page 131

2. Correspondence from COPSE re: Statement of Intent:  
Joint Honours Degree in Chemistry and Physics

Page 135

### IV REPORT OF THE PRESIDENT

a) President's Report December 6, 2006

Page 136

b) Annual Progress Report: Building for a Bright Future  
a Strategic Academic Plan for the University of Manitoba

Page 159

### QUESTION PERIOD

Senators are reminded that questions shall normally be submitted in writing to the University Secretary no later than 10:00 a.m. of the day preceding the meeting.

**VI** **CONSIDERATION OF THE MINUTES  
OF THE MEETING OF NOVEMBER 1, 2006**

**VII** **BUSINESS ARISING FROM THE MINUTES**

**VIII** **REPORTS OF THE SENATE EXECUTIVE COMMITTEE  
AND THE SENATE PLANNING AND PRIORITIES COMMITTEE**

**1.** **Report of the Senate Executive Committee**

Page 196

**2.** **Report of the Senate  
Planning and Priorities Committee**

The Chair will make an oral report on the Committee's activities.

**IX** **REPORTS OF OTHER COMMITTEES OF SENATE,  
FACULTY AND SCHOOL COUNCILS**

**1.** **Report of the Senate Committee on Admissions**

**a)** re: Proposal from the I.H. Asper School of Business to eliminate the option for students to complete required qualifying work in a summer session immediately preceding the fall intake; and to reduce the required **number of credit hours of qualifying electives**

Page 202

**b)** re: Proposal from the Faculty of Agricultural and Food Sciences to modify its policy on transfer credit for University of Manitoba Agriculture Diploma graduates who apply for admission to the Faculty's **degree programs**

Page 205

**2.** **Proposal for a Bachelor of Science in  
Geological Sciences (General)**

Page 206

**a)** **Report of the Senate Committee on  
Curriculum and Course Changes**

Page 224

**b)** **Report of the Senate  
Planning and Priorities Committee**

Page 226

**3.** **Senate Committee on University Research  
Re: Periodic review of Research Centres and Institutes-  
Centre for Earth Observation Science**

Page 228

**4.** **Undergraduate Changes with Resource Implications  
or Course Changes Beyond Nine Credit Hours**

**a)** **Report of the Senate Committee on Curriculum**

and Course Changes - Part B

Page 232

b) Report of the Senate  
Planning and Priorities Committee

Page 241

5, Report of the Senate Committee on Honorary Degrees

Page 243

X ADDITIONAL BUSINESS

XI ADJOURNMENT

Please Call Regrets to 474-6892.

/nis

## Report of the Senate Committee on Curriculum and Course Changes Part A - Submitted to Senate for Concurrence Without Debate

---

### Preamble

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) are found in Section 8.21 of the *Senate Handbook*. SCCCC is "to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula or courses".
2. Since last reporting to Senate, the Senate Committee on Curriculum and Course Changes (SCCCC) met on October 23, 26, and 27, and November 13, 2006 to consider curriculum and course changes from Faculties and Schools.

### Observations

#### 1. General

In keeping with past practice most changes for departments totaling less than ten credit hours are forwarded to Senate for concurrence without debate. This is in accordance with the Senate's recommendation approved July 3, 1973, that course changes would cease to go to the SPPC when the resource implications are intra-faculty. Deans and Directors are to assess the resource implications to the respective units when course changes are proposed. Major changes in existing programs are to be referred to the SPPC for assessment of resource implications.

2. With the implementation of the new student enrolment information system *Aurora*, courses were assigned new course number designations. Many of the faculties are in transition using the new course numbering system. As such, this report consists of both the old and new course numbers. The 2007-2008 calendar will report all courses in the new numbering system.

#### 3. Faculty of Agricultural and Food Sciences

The Faculty is proposing the deletion of **SOIL 4120 Soil Microbiology** and replacing it with **SOIL 4400 Soil Ecology** in group 3 restricted elective of the Agronomy program and the group 1 restricted elective of the Agroecology program. Group 1 restricted electives in the Food Science program will have a combination of both **AGRI 2190 Toxicology Principles** and **ANSC 2530 Nutritional toxicology** added to it. **FOOD 4160 Food Analysis** will be modified, deleting **CHEM 1320** from the list of prerequisites.

The Faculty of Agricultural and Food Sciences has developing another minor program that will be available both to Agriculture students and those in other faculties. The Animal Systems program has put forward a proposal for a minor which is outlined in the recommendation section of this report.

#### 4. Faculty of Architecture

The Faculty is proposing the introduction of one new course **EVDS 1XXX Visual Literacy**, in support of the changes and advances in environmental design education.

5. **Faculty of Arts**

**Anthropology**

The Department of Anthropology is proposing the addition of one course **ANTH 2XXX Anthropology of Childhood (B)**. This course reflects the interests of new faculty.

**Catholic Studies**

The Program is proposing the addition of two new courses, **CATH 2XXX Literature and Catholic Culture 1** and **CATH 2XYY Literature and Catholic Culture 2**. These courses will allow the program to round out its course offerings. The program is also proposing modifying the list of Approved Courses in Catholic Studies to reflect the addition of the following courses: CATH 2XXX Literature and Catholic Culture 1, CATH 2XYY Literature and Catholic Culture 2, and HIST 2991 Histoire de l'Église catholique depuis 1540 (G).

**Central and East European Studies**

The Faculty has submitted modifications to the List B. These changes are a reflection of the addition of HIST 3AAA German and German Jewish History 1780-1933 (E) (3), HIST 2841 Histoire de la Russie jusqu'en 1917 (E) (3), HIST 2661 Histoire de l'Union soviétique (E) (3), RLG 1350 The History of Eastern Christianity (6), FAAH 3280 (3) Early Byzantine Art and Architecture (3), FAAH 3290 Later Byzantine Art and Architecture (3), FAAH 3160 Topics in 20<sup>th</sup> Century Art (3) (this course would count in years when its focus was on Central and Eastern Europe), GRMN 2120 Introduction to German Culture 1(3) (in English), GRMN 2130 Introduction to German Culture 2(3) (in English), GRMN 3260 Representations of the Holocaust (3) (usually in German), GRMN 3270 Studies in Contemporary German Cinema (3) (in English), GRMN 3280 Sex, Gender and Cultural Politics in the German-Speaking World (3) (usually in German), GRMN 3290 History in Literature in German-Speaking Countries (3) (usually in German), GRMN 3390 German Representations of War (3) (in English), SLAV 2240 East European Literature 1 (3) (in English), SLAV 2250 East European Literature 2 (3) (in English), SLAV 2AAA Russia, Ukraine and Poland-Cultures in Dialogue 1(3) (in English), SLAV 2AAB Russia, Ukraine and Poland-Cultures in Dialogue (3) (in English), RUSN 2740 Literature and Revolution (3) (in English), RUSN 2AAA Masterpieces of Russian Literature in Translation (3), and UKRN 3850 Ukrainian Short Story (3) (in English). An additional change: HIST 2660 is incorrectly identified. It should read: History of the Soviet Union.

**Drama**

The Program has submitted modifications to the List A. These changes are a reflection of the addition of FILM 1ABC Film History, FILM 3ABC Acting for the Camera, and FILM 3DEF Special Topics in Film 3.

**Economics**

Modification of **ECON 2350 Community Economic Development** is being proposed by the department, to include a restriction for the native studies course being renumbered to a 3000 level course.

### English

**ENGL 3XXX Special Topics in Creative Writing 1** and **ENGL 3YYY Special Topics in Creative Writing 2** are being proposed by the department. These courses will help meet student's needs and reflect the expertise of new faculty members. The department is also proposing the modification of **ENGL 3500 Creative Writing** and **ENGL 3790 Advanced Creative Writing**. The department is proposing a change in deadline for submission of writing samples to facilitate the registration process for both these courses.

A revision to the English Program Chart notes is being proposed. Note 2 would now read: Students may offer up to 6 credit hours in Film Studies courses, with the exception of FILM 1290 and FILM 1ABC (or the former FILM 1300), toward both the 3-year and the 4-year Major in English.

### Film Studies

It is proposed that **FILM 1300 The Art of the Film 2** be deleted, and in its place offer **FILM 1ABC Film History**. The proposed change would give second first year course a more identifiable focus and function. **FILM 3ABC Acting for the Camera** is being proposed for introduction. This course has been offered under a Special Topics heading, and it has always enrolled well and generated considerable student enthusiasm. **FILM 3DEF Special Topics in Film 3** is being proposed as a new course. This Special Topics addition will permit the offering of the occasional two term courses (such as Advanced Camera Acting and Scriptwriting) when major, long-term group projects are undertaken. The course could also be used for film history and theory proposals.

The following courses are being modified, to reflect the change of a pre-requisite requirement of FILM 1ABC: FILM 2280 Film and Literature, FILM 2300 The Popular Film, FILM 2330 Film and Contemporary Thought, FILM 2380 The International Cinema 1, FILM 2390 The International Cinema 2, FILM 2400 The American Film to 1950, FILM 2410 The American Film from 1950, FILM 2460 Film Genres, FILM 3250 Special Topics in Film 1, FILM 3260 Special Topics in Film 2, FILM 3400 The Director's Cinema 1, FILM 3410 The Director's Cinema 2, FILM 3420 Film Theory, FILM 3430 Screenwriting, FILM 3440 Filmmaking, and FILM 3450 The Animated Film. Modification of the description of FILM 3260 Special Topics in Film 2, is being proposed, so that the prerequisite will include a grade of "C" or better in the two first year courses *and* written consent of the instructor.

Revision to the General Major, Advanced Major and Minor Programs chart is being proposed to reflect the proposed addition of FILM 1ABC and proposed deletion of FILM 1300.

### French, Spanish and Italian – French

**FREN 4XXA Études sur l'Ancien Régime (B)** is being proposed as a replacement for **FREN 4400 Littérature de la Renaissance (B)** which will be deleted. The Department is proposing changes to the fourth year of the French Honours Program (Single and Double). These changes will allow the Department greater flexibility in its course offerings and make better use of its teaching resources. Students in the fourth year of the Honours program will be expected to take at least one of two advanced language courses (either FREN 4710 Séminaire de langue or FREN 4730

Traduction), in addition to other 4000 and possibly 3000-level courses. There will no longer be two options in the fourth year of the Honours Double.

### French, Spanish and Italian – Spanish

**SPAN 3XXD Spanish Phonetics and Pronunciation** and **SPAN 3XXE Spanish Syntax and Grammar** are being proposed as replacements for **SPAN 3280 Spanish Phonetics and Syntax** which will be deleted. To reflect the expertise of new faculty members in the Department, and current member's research interests, four new courses are being proposed. They are **SPAN 1XXL Accelerated Intermediate Spanish**, **SPAN 3XXA Cinema and Literature**, **SPAN 3XXB Advanced Spanish Vocabulary and Composition**, and **SPAN 3XXC Testimony and Human Rights in Latin America**. Modifications in SPAN 1180 Introductory Spanish, SPAN 1260 Intermediate Spanish Language Review, SPAN 1270 Spanish Oral 1, SPAN 1280 Spanish for Native Speakers, SPAN 2200 Spanish American Culture and Civilization, SPAN 2510 Survey of Spanish Civilization, SPAN 2520 Introduction to Spanish Literature, SPAN 2530 Spanish American Literature 1, SPAN 2540 Spanish American Literature 2, SPAN 2550 Advanced Spanish Composition, and SPAN 2560 Advanced Spanish Conversation to reflect the change in pre-requisite requirements to SPAN 1XXL Accelerated Intermediate Spanish. The General Major program, Options 1 and 2 has changes to include SPAN 1XXL as an alternative to both SPAN 1260 and SPAN 1270. The Advanced Major program has changes to include SPAN 1XXL as an alternative to both SPAN 1260 and SPAN 1270 in options 1 and 2. It also reduces the total credit hours in Options 1, 2, and 3 from 52 credit hours to 48 credit hours.

### French, Spanish and Italian – Italian Studies

Modifications to "List A" to include the following courses: HIST 2XXX Europe 1789-1870 (E) (3), HIST 2YYY Europe 1870 to the Present (E) (3), HIST 3XXX Medieval Italy (D) (6), HIST 3XXY Europe 1870-1918 (E) (3), HIST 3YYY Europe 1918-1945 (E) (3).

### German and Slavic Studies – German

The Department is proposing replacement of **GRMN 3380 Special Topics in German** with **GRMN 3AAA Special Topics in German 1** and **GRMN 4530 German Literary Theory and Criticism** with **GRMN 4AAB Literary and Cultural Theory**. **GRMN 3AAB Special Topics in German 2** is being proposed as a course taught in English without the German language prerequisites. **GRMN 4AAA Honours Thesis in German Studies** and **GRMN 4AAC Survey of Second Language Acquisition and Methods of Language Teaching in German** are being proposed. This is the second phase of the modification of the Honours program. The following courses are being modified by a change in prerequisite, adding "or in GRMN 3200": **GRMN 2140 Exploring German Literature**, **GRMN 2480 Special Topics in German 1**, **GRMN 2490 Special Topics in German 2**, and **GRMN 3230 Business German**. Revision to the Honours Single and Honours Double programs will be required to include GRMN 4AAA and for the requirement of German courses at the 4000 level to be reduced by 3 credit hours.

### German and Slavic Studies – Slavic Studies

In response to new faculty hires 3 courses are proposed for introduction. These are **RUSN 2AAA Masterpieces of Russian Literature in Translation**, **SLAV 2AAA Russia, Ukraine and Poland –**

**Cultures in Dialogue 1, and SLAV 2AAB Russia, Ukraine and Poland – Cultures in Dialogue 2.** To increase flexibility in the programs, modifications are being made to the General Russian Major program and Program Notes, and the General Ukrainian Major program and Program Notes to reflect the course changes being proposed in the department and a change in course requirements. Modification is also being made to the Polish Minor program.

### Global Political Economy

Modifications are being made to the General Major and Advanced Major programs to include SOC 3870 or SOC 3XXO as additional options to existing SOC 3470 or SOC 3690. The List of Courses for Global Political Economy is being revised to include: SOC 3870, SOC 3871, and SOC 3XXO. The List of Suggested electives is being modified to include: ANTH 3320 Women in Cross-Cultural Perspective (B), ECON 2630 An Introduction to the World's Economies, HIST 2671 Histoire du capitalisme (M), LABR 3XXX Globalization and Labour, POLS 2530 Elements of Foreign Policy, SOC 3470 Political Sociology, SOC 3690 Sociology of the Developing Societies, SOC 3810 Sociological Perspectives on Gender and Sexuality, SOC 3871 Inégalités sociales and SOC 3XXO Ecology and Society.

### History

The Department is proposing the division of two existing 6 hour courses into half courses. The 6 hour courses will remain in the calendar. The introduced courses are: **HIST 2XXX Europe 1789-1870 (E)**, **HIST 2YYY Europe 1870- to the Present (E)**, **HIST 3XXY Europe 1870-1918 (E)**, and **HIST 3YYY Europe 1918-1945 (E)**. In response to new faculty members and faculty research interests, the department is proposing the introduction of four new courses. These include: **HIST 2AAA Social History of the Jews: Antiquity to Present**, **HIST 3AAA German and German Jewish History, 1780-1933 (E)**, **HIST 3XXX Medieval Italy (D)**, and **HIST 4AAA The Social History of the Latin American State (1492-2005) (A)**.

Modification is being proposed to HIST 2370 History of Europe since the French Revolution (E), to add restriction of the course of HIST 2XXX Europe 1789-1870 and HIST 2YYY Europe 1870 to Present. Modification is being proposed for HIST 2490 History of Russia (E) to add restrictions of newly introduced courses at St. Boniface College. These courses are HIST 2661 or HIST 2841. Restriction of HIST 2661 Historie de l'URSS and HIST 3471 is being proposed for HIST 2660 History of the Soviet Union (E). HIST 2671 Histoire du capitalisme is being proposed as a restriction for HIST 2670 History of Capitalism (M). HIST 2840 A History of Russia to 1917 (E) has proposed restrictions of HIST 2841 Histoire de la Russie jusqu'en 1917 (E), a newly introduced course and the former HIST 3471 (11.347) which had been previously missed in error. It is proposed that a restriction of a newly introduced course, HIST 2991 Histoire de l'Église catholique depuis 1540 (G), be added to HIST 2990 The History of Catholicism since 1540 (G). HIST 3680 Europe, 1870-1945 (E) has a restriction of two introduced courses added. The courses are HIST 3XXY Europe 1870-1918 and HIST 3YYY Europe 1918-1948.

### Labour Studies

The Labour Studies Program is proposing the introduction of **LABR 3XXX Globalization and Labour**. This course will reflect new developments in the field and introduce students to issues of contemporary concern. Several modifications are being made to the General Major, Advanced Major and Minor programs to reflect course and program changes. This includes the deletion of Options 1 and 2 as well as changes in the requirements of credit hours for years 2 and 3 in the General Major, and year 4 in the Advanced Major.

HIST 2671 Histoire de capitalisme (M) is to be added to the "List of Electives", while all Labour Studies are to be removed. As well, the "List of Core Courses for Labour Studies" is to be deleted.

### Native Studies

Native Studies is proposing the deletion of the following courses, as a staff member has moved to the Clayton H. Riddell Faculty of Environment, Earth and Resources and no other staff is available to teach these courses: **NATV 3320 Aboriginal Organizations, NATV 3340 Circumpolar Cultures and Lifestyles, NATV 4260 Sacred Lands and Sacred Spaces of Indigenous Peoples, NATV 4270 Indigenous Peoples' Material Culture and NATV 4310 Exploring Aboriginal Economic Perspectives.**

Due to a new hire and changing research interests, the Department is proposing the introduction of the following courses: **NATV 2XXX Indigenous Women's Stories, NATV 3XXC Indigenous Environmental Discourse, NATV 3XXD Exploring Aboriginal Economic Perspectives, NATV 3XYY International Indigenous Literatures, NATV 3YYX Aboriginal Resistance Writing, NATV 4XXX Indigenous Aesthetics, and NATV 4YYY Text, Representation and Discourse.**

The Department is proposing several modifications to the Native Studies Advanced Major Aboriginal Governance Stream with Required Minor in Business – Advanced Major – years 2, 3, and 4 requirements. This includes the deletion of NATV 3320 and NATV 4310 and the addition of NATV 3350 Aboriginal Organizations and NATV 3XXD Exploring Aboriginal Economic Perspectives. There is also the proposal to reduce the required credit hours from 21 to 15. The "List of Approved Courses in Native Studies will have all courses from the following units removed from the list: Anthropology, Economics, History, Sociology, Education, and Clayton H. Riddell Faculty of Environment, Earth and Resources.

### Psychology

The Department of Psychology is proposing the deletion of **PSYC 3330 Elements of Physiological Psychology** and replace it with **PSYC 3XYY Behavioural Neuroscience**. They are also proposing the deletion of **PSYC 4570 Design and Analysis for Psychological Experiments** replacing it with **PSYC 3XXX Design and Analysis for Psychological Experiments**. The Department is also proposing the deletion of **PSYC 4500 Psychological Tests**. Modification of PSYC 4520 Honours Research Seminar is being proposed. This is being done in response to the proposed course changes deletion of PSYC 4500 and PSYC 4570 and adding PSYC 3XXX as a prerequisite. Modification of PSYC 3370 Principles of Physiological Psychology and PSYC 4630 Behavioural Endocrinology is being proposed due to prerequisite course changes.

Changes to the Honours Single and Honours Double programs are being proposed. These included the year 3 requirement for "3 credit hours from PSYC 3630, 4500, or PSYC 4570" to read

"3 credit hours from PSYC 3630 or PSYC 3XXX. The program chart footnote 2 will have the deletion of PSCY 3330 from Category E and PSCY 3YYY added to Category E.

### Religion

Religion is proposing the deletion of two courses: **RLGN 3770 Paul the Apostle (A)** and **RLGN 4400 Studies in Contemporary Theology (C)**. To accommodate faculty expertise and facilitate frequency of offering, four new courses are being proposed. These include: **RLGN 2XXO Religion and Healing (C)**, **RLGN 3XXO Paul and the Letters (A)**, **RLGN 4XXO Advanced Studies in Christian Origins (A)**, and **RLGN 4XYO Advanced Studies in Mysticism (C)**.

### Sociology

Sociology is proposing the deletion of **SOC 4470 Research Methods 1** and replacing it with **SOC 4XYO Social Research Methods**. They are also proposing the deletion of **SOC 4480 Research Methods 2** and replacing it with **SOC 4XXO Quantitative Social Analysis**. The Department is proposing the introduction of **SOC 3XXO Ecology and Society**. This had previously been offered as a special topics course. Modifications are being proposed for **SOC 3760 Criminology Field Experience** to clarify the enrolment procedure.

Modifications to the Honours Single and Honours Double programs are being proposed to reflect the proposed course changes.

### Urban Studies

It is proposed that the minor program be deleted. There have been no students for several years.

### Collège universitaire de Saint-Boniface – History

The deletion of **HIST 2211 Histoire d'Angleterre depuis 1485 (E)** and **HIST 3341 Histoire de l'Europe, 1789-1870 (E)** are being proposed. **HIST 3471 Histoire de la Russie modern (E)** is being proposed for deletion, to be replaced by **HIST 2661 Histoire de l'Union soviétique (E)** and **HIST 2841 Histoire de la Russie jusqu'en 1917 (E)**. The unit is proposing the introduction of five courses in keeping with advances/changes in the area. These are: **HIST 2671 Histoire du capitalisme (M)**, **HIST 2991 Histoire de l'Église catholique depuis 1540 (G)**, **HIST 3XX1 La Guerre au 20<sup>e</sup> siècle (G)**, **HIST 3XY1 Histoire de l'Éducation en Occident Depuis 1500, une introduction (M)**, and **HIST 3YX1 Histoire de la démocratie (G)**. In order to provide flexibility for students, two courses are being proposed for introduction. They are **HIST 3111 Sujets spéciaux 1** and **HIST 3121 Sujets spéciaux 2**.

### Collège universitaire de Saint-Boniface – Psychology

**PSYC 3YY1 Neurosciences du comportement** is being proposed as a replacement for **PSYC 3331 Éléments de psychologie physiologique** which is being deleted.

### Collège universitaire de Saint-Boniface – Traduction

With the introduction of SPAN 1XXL a restriction is being added to the following courses: **TRAD 1181 Introduction à l'espagnol**, **TRAD 1261 Espagnol intermédiaire**, and **TRAD 1271 Espagnol oral 1**. SPAN 1XXL is being added as a prerequisite for two courses. They are **TRAD 2361 Espagnol commercial**, and **TRAD 2571 El español a través del cine hispanoamericano**.

6. School of Art

The School of Art is proposing the introduction of one new course, **STDO 2450 Introduction to Digital Photography**.

7. Faculty of Dentistry- School of Dental Hygiene

The School restructured the curriculum in order to break down two large courses and reassigned credit hours for five dental hygiene courses to better reflect time spent in delivery of those courses. The proposed course deletions are: **HYGN 1230 Oral and Dental Anatomy**, **HYGN 1240 Preclinical and Clinical Dental Hygiene**, **HYGN 1260 Radiology**, **HYGN 1350 Community Health I**, **HYGN 1290 Preclinical Restorative Dentistry Techniques for Dental Hygienists**, **HYGN 2310 Dental Hygiene**, and **HYGN 2360 Community Health II**. The proposed course introductions are: **HYGN 1AAA Oral and Dental Anatomy**, **HYGN IAAB Preclinical Dental Hygiene**, **HYGN 1AAC Dental Hygiene Theory and Practice I**, **HYGN 1AAD Clinical Dental Hygiene I**, **HYGN 1AAE Dental Hygiene Theory and Practice II**, **HYGN 1AAF Radiology**, **HYGN 1AAG Community Health I**, **HYGN 1AAH DH Preclinical Restorative**, **HYGN 2BBB Clinical Dental Hygiene II**, **HYGN 2BBC Dental Hygiene Theory and Practice III**, **HYGN 2BBD Clinical Dental Hygiene III**, **HYGN 2BBE Dental Hygiene Theory and Practice IV**, and **HYGN 2BBF Community Health II**.

8. Faculty of Education

Post Baccalaureate Diploma in Educational program

The Faculty of Education will now require a minimum grade of "C" for pre-requisite courses to 5000 level Education courses in the Post Baccalaureate Diploma in Educational program. The Faculty is proposing the deletion of **EDUA 5400 the Development of Higher Education** as it is not required in the newly merged program of Adult Education and Post Secondary Education program.

Collège universitaire de Saint-Boniface

The Collège is proposing the deletion of **EDUB 1991 Enseignement de la technologie** and proposing that technology be integrated throughout the program. The Collège is also proposing the deletion of **EDUA 1811 École et société 1** and **EDUA 2811 École et société 2**. A number of new courses are being proposed in order to introduce new material in keeping with advances and changes in the field. These courses are: **EDUA 2XY1 le role de l'école dans la société**, **EDUB 3XW1 Principes et pratiques de l'évaluation des apprentissages**, and **EDUA 3XX1 Diversité cultruelle dans les 'écoles**. A course is proposed for introduction for thoses students who have not met the linguistic requirements of the program. It will allow them to upgrade language skills. The course is **EDUB 2XV1 Pérfectionnement du francais oral et écrit**. In order to correct a course number, the Collège is proposing the introduction of **EDUB 4XZ1 Didactique du/en francais au secondaire**. The Collège is proposing that all additional courses required of students to meet the linguistic requirements of the program be over and above the 60 credit hours assigned in the basic program requirements.

The Collège is proposing the introduction of seven new courses within the Post-Baccalaureate Diploma program which will allow teachers to integrate techniques and strategies into Basic French classrooms through the exploration of subject areas. Students will be able to choose 15 credit hours from the courses, but will be required to take the Theory and Practice of Teaching French as a Second Language course. The new courses are as follows: **EDUB 5XZ Théorie et pratique de l'enseignement du français langue seconde**, **EDUB 5WZ L'utilisation des médias en enseignement du français de base**, **EDUB 5WW, Théorie et pratique des arts visuels et l'enseignement du français de base**, **EDUB 5YY L'enseignement du français de base et les TIC**, **EDUB 5XX French Immersion for Teachers – Intermediate CD**, **EDUB 5XY French Immersion for Teachers – Advanced or Perfectionnement**, and **EDUB 5ZZ L'art dramatique et l'enseignement du français de base**.

## 9. Clayton H. Riddell Faculty of Environment, Earth, and Resources

### Geography

**GEOG 4XXO Parks and Protected Areas Planning and Management: Field Studies** is being proposed. This course had previously been offered as a current topics 3000 level course. It will also be offered by the Faculty of Physical Education and Recreation Studies as **REC 4XXO**. Modification of **GEOG 4590 Spatial Analysis** is being proposed to reflect the changing nature of geography at the University of Manitoba.

### Environmental Science and Environmental Studies

**ENVR 3650 Environmental and Natural Resources Policy** is proposed to be replaced by **ENVR 2XYO Introduction to Environmental and Natural Resources Policy and Law**. **ENVR 3XXO Circumpolar Cultures and Lifestyles** is being proposed. This course had previously been taught in the Department of Native Studies. The Faculty member is now part of Clayton H. Riddell Faculty. **ENVR 3XYO Methods in Ecotoxicology** is also being proposed to complement the series of toxicology courses. Change in prerequisites has required the modification of the following courses: **ENVR 2900 Professional Development in the Environmental Sectors 1**, **ENVR 3150 Environmental Responsibilities**, **ENVR 4110 Critical Thinking and the Environment** and **ENVR 4650 Advanced Issues in Environmental Law and Policy**. Program charts for both programs are to be updated as per the recommendations section. Admission and Performance Requirements as well as minimum performance for continuation and graduation charts have also been revised as per the recommendations section.

### Physical Geography

Physical Geography program chart will reflect the deletion of course **ENVR 2350** from the required list of Cooperative Education courses.

### Geological Sciences

The department is proposing modifications to the following courses prerequisites as a result of a review of the undergraduate curriculum: **GEOL 4260 Applied Geophysics Field Course**, **GEOL 4740 Geophysics Field Course**, and **GEOL 4810 Geophysics Data Analysis**. The department is also proposing a variety of program modifications as follows: (a) Number of credit hours :The number of

credit hours in the Geophysics Honours program is to be reduced by 5 credit hours & the number of credits hours in the Geophysics Major program is to be increased by one credit hour in order to bring the program requirements into line with the Geology Honours and Major program. (b) Program structure: The structure of the Geophysics Honours and Geophysics Major Programs is to be changed as shown in the table in the recommendations section. The primary change involves the introduction of an elective structure to one similar to that previously adopted for the Geology Programs.

This arrangement of courses has added significant flexibility to the Geophysics Programs (e.g. allowing students interested in obtaining employment in the oil and gas exploration industry to include Sedimentology and Petroleum courses in their programs) while allowing undergraduate students to satisfy the national and provincial academic requirements for professional registration within their degrees.

There have also been several changes to the core courses in the Geophysics Programs and these are defined in Table 4 in the recommendations section. These changes include: the introduction of CHEM 1300; a change in a core mathematics requirement (MATH 2120 replacing MATH 3110); the movement of several mathematics and physics courses from core courses into the P-elective category (PHYS 2610 and PHYS 2650) or the B-category (MATH 3810) which is done in order to enhance the flexibility of the programs and to accommodate the change from 126 to 121 credit hours; the inclusion of MATH 1210 Classical and Linear Algebra; the replacement of MATH 2100 Mathematical Methods for Engineers 1 and MATH 2110 Mathematical Methods for Engineers 1 with MATH 2ABO Engineering Mathematical Analysis I and MATH 2ACO Engineering Mathematical Analysis. This change is to accommodate changes made by the Department of Mathematics to its second year engineering mathematical methods courses; the movement of GEOL 4830 Remote Sensing and GIS from the Honours Geophysics core into the B-elective category to reflect the fact that the department is unable to offer this course in the near future and it is presently optimally substituted by a 2000-level Environment and Geography course. Note that Geophysics Honours and major students can take either a stream of MATH courses taken by Engineering students or an alternative stream taken by Science students.

## 10. Faculty of Engineering

### Biosystems Engineering

The department is proposing the introduction of two new courses. The first course is **BIOE 4LBO Design of Light-Frame Building Systems** which will replace **BIOE 4540 Controlled Environment Production Systems** and the previously deleted 34.324 Loads and Light Structural Frames. The second course is being introduced to meet the needs of students interested in medicine and to the interests of a new faculty member. The course is **BIOE 4ISO Imaging and Spectroscopy for Biosystems**.

### Electrical and Computer Engineering

**ECE 2XYO Electric Circuits** is proposed as a replacement for **ECE 2260 Circuits and Transmission Lines**.

## 11. Faculty of Human Ecology

## Textile Sciences

The Department is proposing the modification of **TXSC 1610 Textiles, Products, and Consumers**. When this course was proposed it was thought that there would be overlap with 064.122. The content is not similar and the Department wants to remove the restriction "not to be held with the former 064.122".

## Family Social Sciences

The Department is proposing the modification of three courses, all having changes to the prerequisites. These courses are: **FMLY 3600 Adolescents in Families and Society**, **FMLY 3800 Conflict Resolution in the Family**, and **FMLY 4800 Senior Seminar in Family Violence and Conflict Resolution**.

The Department is proposing an after degree program. Students would be required to complete 60 credit hours in total to earn a second degree in Family Social Sciences. The proposal is outlined in the recommendation section of this report.

## Human Nutritional Sciences

The Department is proposing the deletion of **HNSC 4330 Practicum in Foods and Nutrition** and replacing it with **HNSC 4XXX Nutrition Option Practicum**. They are also proposing the deletion of **HNSC 4360 Foods Option Practicum**, to be replaced with **HNSC 4XXX Food Industry Option Practicum**.

The department is proposing advanced placement for Red River College Culinary Program students. They would be given 24 hours of transfer credits from the Faculty of Human Ecology and 6 hours of transfer credits from other Faculties. These would include: A. 24 hours of transfer credits from the Faculty of Human Ecology, 6 hours of transfer credits from other Faculties, and a lab exemption.

The Department is proposing the introduction of a Food Industry Option that will expand on opportunities that students have in the current Foods Option and provide three areas of specialization (Quality Assurance, Food Product Development, and Food Industry Management). Students will be required to take 90 credit hours of core courses, 15 credit hours in a concentration, and 15 credit hours of electives.

## 12. I.H. Asper School of Business Faculty of Management

The Faculty is proposing modification of two courses, changing prerequisites. These courses are **MIS 3500 Database Management Systems** and **ACC 4030 Accounting Theory**. The Faculty is proposing the introduction of three new marketing courses. These courses are being moved from the Business Administration Department and are: **ENTR 3AAA Technological Entrepreneurship**, (replacing the deleted course **GMGT 3050 Technological Entrepreneurship**), **ENTR 3ABC Family Business Management**, and **ENTR 3AAB Selected Topics in Entrepreneurship**.

The Faculty is also modifying the Aboriginal Business Studies Major Options due to changes in course offerings in the Department of Native Studies. The changes can be found in the recommendations section of the report.

### 13. Faculty of Physical Education and Recreation Studies

Over the last year the Faculty of Physical Education and Recreation Studies has conducted an extensive review of all aspects of their undergraduate programs as a result of consultations with the Faculty's Academic Council, Faculty Council, students and Advisory Boards. The proposed curriculum review stems from this review. In conducting the review, the Faculty is in essence, proposing course introductions, modifications and deletions to take place over three years from 2007-08 to 2009-10. These changes represent a complete restructuring and updating of the existing programs in Physical Education, Kinesiology and Recreation Management and Community Development.

In the Kinesiology and Recreation Management and Community Development programs, the Faculty proposes "areas of emphasis", or groups of courses that will be packaged together for marketing and advising purposes, but will not form a part of a student's transcript. The proposed seven areas of emphasis are: Community Development and Wellness, Aging, Culture and Diversity, Fitness Professional, Coaching, Sport and Event Management and Sustainable Tourism and Recreation.

The Faculty is also proposing the introduction of 14 three credit hour Experiential Learning Courses with applied activities that are designed to translate theoretical components to hands-on learning in the gymnasium, dance studio, fitness studio, playing field, outdoor environment or clinic. The proposed Experiential Learning Courses will replace all of the Faculty's one credit hour pass/fail activity courses, which are proposed for deletion. The Faculty is proposing an elective 12 credit hour supervised fieldwork experience in both the Kinesiology and Recreation Management and Community Development programs. The fieldwork course would require as prerequisites that the students have completed at least 90 credit hours of their program, and have a minimum GPA of 2.5. While the fieldwork experience course is an elective, it will be strongly recommended by the Faculty to all students who wish to pursue an area of emphasis.

Students in the Athletic Therapy program will continue to take the Athletic Therapy Practicum in each of years 2, 3, and 4 of the program, but each year's practicum will be reduced from eight credit hours to six. This will be done by reducing the number of assignments and eliminating a weekly evening meeting. Students will continue to receive credit for all 1200 practicum hours.

The Faculty also proposes new academic progression rules for all students in the Faculty of Physical Education and Recreation Studies, as outlined in the recommendations section of this report. While the new programs will be implemented from 2007-2008 to 2009-2010 for new students to the Faculty, the Faculty has a transition plan in place to ensure that students currently completing the existing programs in the Faculty will not be placed at a disadvantage. Course equivalencies, course replacements, offering separate sections of existing courses and assessing individual cases are all contemplated by the Faculty as part of the transition plan.

The Faculty is also proposing the introduction of **REC 4XXX Parks and Protected Areas Planning and Management: Field Studies**. This course has been used by Recreation Management and

Community Development students for many years as offered by the Department of Environment and Geography, and the Faculty is now seeking a discrete Faculty course number for the course.

The proposed curriculum includes a base of shared (across all degrees) introductory courses, and shared upper level courses with a professional focus (prefix PERS). Required and elective courses will be designated KIN, REC and PHED in the Kinesiology, Recreation Management and Community Development, and Physical Education programs respectively.

#### 14. **Faculty of Science**

##### **Actuarial Mathematics Program**

In an effort to be responsive to changes in the professional examination policies of the Society of Actuaries, and to provide students with a stronger educational experience, the Faculty proposes program modifications in making courses in Economics, Corporate Finance and Applied Statistics required, rather than elective courses in the Actuarial Mathematics program. The Faculty is also proposing a change to the entrance requirement to the Actuarial Math program in an effort to maintain similar entrance requirements to the B.Comm program and the addition of the new STAT 2XY0 to the program.

##### **Biochemistry Joint Program**

The Faculty proposes that new Chemistry course CHEM 4XY0 Drug Design and Drug Discovery be added to the options list in the Biochemistry Joint Program.

##### **Biology Program**

Due to recent changes in the University's General Entrance Requirements, the Faculty is proposing that "any grade 12 or 40S mathematics or equivalent" be added as a prerequisite for three of the introductory biology courses.

##### **Biotechnology Joint Program**

The Faculty proposes that new Chemistry course CHEM 4XY0 Drug Design and Drug Discovery be added to the options list in the Biotechnology Joint Program.

##### **Botany**

To meet an expressed need in the undergraduate Botany program, the Faculty proposed the introduction of **BOTN 4AA0 Molecular Biology for Plants and Fungi**. The faculty also proposes that the 'W' designation be removed from BOTN 1010 Economic Plants, that course BOTN 2110 Mosses, Ferns and Conifers be modified to reflect a change in the structure of prerequisite courses and that course BOTN 3000 Evolutionary Biology be modified by adding an alternate prerequisite. In addition STAT 2000 is being removed as a required course, and is added to the list of required math or physics requirements.

##### **Chemistry**

The Faculty is proposing the introduction of a new course **CHEM 4XY0 Drug Design and Drug Discovery**. Due to recent changes in the University's General Entrance Requirements, the Faculty is proposing that "any grade 12 or 40S mathematics or equivalent" be added as a prerequisite or concurrent requirement to CHEM 0900 Preparatory Chemistry.

The Faculty is also proposing a number of modifications to the program requirements in the Chemistry Major and Chemistry Honours programs, as outlined in the recommendations section of this report. In addition, the Faculty proposes the introduction of four focus areas within the existing Chemistry degree programs. The focus areas are Environmental Chemistry, Bioanalytical Chemistry, Materials Science and Biopharmaceutical Chemistry.

### **Chemistry-Physics Joint Program**

The Departments of Chemistry and Physics and Astronomy propose the introduction of a Joint Honours Program in Chemistry and Physics. This program will be comprised entirely of existing and currently offered courses and is therefore a re-packaging of existing offerings to provide another option for students. The Council on Post-Secondary Education has already approved the Statement of Intent for this program.

### **Computer Science**

Due to recent changes in the University's General Entrance Requirements, the Faculty is proposing that "any grade 12 or 40S mathematics or equivalent" be added as a prerequisite for COMP 1010, COMP 1020, COMP 1011 and COMP 1021.

Course COMP 2150 Object Orientation is being modified by the removal of the laboratory component, while a laboratory component and revised prerequisites are being added to course COMP 2280 Introduction to Computer Systems.

### **Genetics Program**

In an effort to augment course offerings, new course BOTN/ZOOL 3000 Evolutionary Biology is proposed for addition to the options list in the Genetics Program.

### **Mathematics**

As a result of updating and modification to three service courses for Engineering students, the Faculty proposes the deletion of **MATH 2100 Mathematical Methods for Engineers 1**, **MATH 2110 Mathematical Methods for Engineers 2**, and **MATH 3100 Mathematical Methods for Engineers 3** and the introduction of **MATH 2AB0 Engineering Mathematical Analysis 1**, **MATH 2ACO Engineering Mathematical Analysis 2**, and **MATH 3AB0 Engineering Mathematical Analysis 3**. The department also propose a course title changes, which necessitates the deletion of **MATH 3500 Applied Linear Algebra** and **MATH 2350 Linear Algebra with Applications** and the introduction of **MATH 4LA0 Applied Matrix Analysis** and **MATH 2BA0 Advanced Linear Algebra**. Finally, the Faculty proposed to make MATH 2120 Introductory Numerical Methods for Engineers available to Geophysics students, in addition to Engineering students.

### **Microbiology**

The Faculty proposes the introduction of **MBIO 4XY1 Virologie**, the French language version of MBIO 4410, for Collège universitaire de Saint-Boniface. Due to recent changes in the University's General Entrance Requirements, the Faculty is proposing that "any grade 12 or 40S Mathematics or equivalent" be added as a prerequisite to MBIO 1220 Essentials of Microbiology. The Faculty also proposes the addition of CHEM 4XY0 Drug Design and Drug Discovery to the option list in the Microbiology Program.

### Physics

In response to a request from the Faculty of Engineering for a substitute physics course to PHYS 1070 at a slightly elevated level, the Faculty proposes the introduction of **PHYS 2XY0 Modern Physics For Engineers**, as service course that will be open to Engineering students only.

### Psychology Program

In response to course changes in the Department of Psychology, the Faculty proposes that PSYC 4500 and PSYC 4570 be removed from year three in the honours program and that PSYC 3XXX Design and Analysis for Psychological Experiments be added to year three of the honours program.

### Statistics

In an effort to provide a stronger background in probability for students taking STAT3500 and subsequent courses, the Faculty proposes the introduction of **STAT 2XY0 Introduction to Probability**. Due to recent changes in the University's General Entrance Requirements, the Faculty is proposing that "any grade 12 or 40S mathematics or equivalent" be added as a prerequisite to courses STAT 1000 and STAT 1001.

In an effort to clarify prerequisites and ensure students are prepared for upper level Statistics courses, modifications to prerequisites are proposed for courses STAT 3470 Statistical Methods for Research Workers, STAT 3500 Intermediate Statistical Theory 1, STAT 4620 Mathematical Probability, and STAT 4630 Stochastic Processes.

These course changes also necessitate consequential modifications to the Statistics-Economics and Statistics-Mathematics Joint Honours programs.

### Statistics-Actuarial Mathematics Joint Honours Program

A number of program changes to the Statistics-Actuarial Mathematics Joint Honours Program as a result of the required changes to the Actuarial Mathematics program. These program changes are outlined in the recommendations section of this report.

### Zoology

The Faculty proposes a modification to course ZOOL 3000 Evolutionary Biology by adding PLNT 2520 as an alternate prerequisite to BOTN 2460.

### Courses offered in other faculties acceptable for credit in Science

The Faculty proposes the addition of Pharmacology Course PHAC 4020 Pharmacology Basics to the list of courses in other faculties acceptable for credit in Science.

The Faculty also proposes that the existing minor in Family Social Sciences be added as a minor for students in the Faculty of Science. In addition, the Faculty proposes that all courses offered by the Department of Family Social Sciences be acceptable for credit in the Faculty of Science.

### **Program Specific Course Minimum Requirements for Honours and Major Programs**

The Faculty has considered and is recommending that Senate approve program-specific minimum grade requirements that are different from the faculty minimum in the following programs:

HONOURS: Actuarial Mathematics, Biochemistry, Biotechnology, Chemistry, Genetics, Mathematics, Microbiology, Statistics and Zoology.

MAJOR: Biochemistry, Chemistry, Computer Science, Mathematics, Statistics and Zoology.

The minimum requirements for these programs are outlined in the recommendation section of this report.

### **Requirements for Dean's Honour List, Degrees with Distinction and First Class Honours designations**

In effort to streamline the requirements for Dean's Honour List, Degrees with Distinction and First Class Honours designations, the Faculty proposes new requirements in these regards. To qualify for Dean's Honour List in any program, a student must achieve a term grade point average (TGPA) of 3.80 or higher on a minimum of 12 credit hours. To qualify for the designation of Degree with Distinction (for General and Major students) and First Class Honours (for Honours students), students must achieve a degree grade point average (DGPA) of 3.80 at the point of graduation.

#### 15. **University 1**

University 1 is proposing the adding **EVDS 1XXX Visual Literacy** to the list of courses acceptable for credit in University 1.

#### **Recommendations**

The Senate Committee on Curriculum and Course Changes recommends that curriculum and course changes from the units listed below be approved by Senate:

**Faculty of Agricultural and Food Sciences**

**Faculty of Architecture**

**Faculty of Arts**

**School of Art**

**Faculty of Dentistry**

**Faculty of Education**

**Faculty of Engineering**

**Clayton H. Riddell Faculty of Environment, Earth, and Resources**

**Faculty of Human Ecology**

**I.H. Asper School of Business Faculty of Management**

**Faculty of Physical Education and Recreation Studies**

**Faculty of Science**  
**University 1**

Respectfully submitted,

Professor J. Welsh, Chair  
Senate Committee on Curriculum and Course Changes

/nis

**Faculty of Agricultural and Food Sciences**

**Animal Science**

A proposal for a minor in Animal Systems which would require: successful completion of 18 credit hours in Animal Science including ANSC 2500 Animal Production.

**Plant Science**

SOIL 4400 Soil Ecology will replace SOIL 4120 in the group 3 restricted elective of the Agronomy program.

**Soil Science**

Courses to be deleted:

SOIL 4120 Soil Microbiology -3

Courses to be introduced:

SOIL 4400 Soil Ecology +3  
Explore the application of soil biology to diversity in agroecosystem, response of soil organisms to management, mediation of important environmental issues, and promotion of human health. Appreciate the vast array of soil organisms and their functions in soil ecosystems, understand cycling of nutrients by soil organisms, and discover quantitative methodology in determining soil biochemical processes. The laboratory provides hands-on experience in observing, quantifying and isolating soil organisms and the biochemical processes they conduct. Prerequisite: SOIL 3600 (D) or consent of instructor.

**NET CHANGE IN CREDIT HOURS: -0 HOURS**

SOIL 4400 Soil Ecology will replace SOIL 4120 in the group 1 restricted elective of the Agroecology program.

**Food Science**

Course to be modified:

FOOD 4160 Food Analysis 1 3  
(Formerly 78.416) This course exposes students to the principles, methods, and techniques of qualitative and quantitative physical, chemical and biological analyses of foods. Major emphasis is placed on understanding the basic principles of classical and instrumental methods of analysis. Criteria for the choice of various analytical methods, methods for treating data and sampling techniques will be studied. Prerequisite: FOOD 2500.

A combination of both AGRI 2190 Toxicology Principles and ANSC 2530 Nutritional Toxicology is added to the list of Group 1 restricted electives in the program.

### **Faculty of Architecture**

Course to be introduced:

EVDS 1XXX Visual Literacy +3  
This course examines the contemporary visual environment, its critical historical influences, and more recent cultural impacts. Optics, the structure of images, and the importance of materiality will be examined through various modes of cultural production including emerging media and information networks.

### **Faculty of Arts**

#### **Department of Anthropology**

Courses to be introduced:

ANTH 2XXX Anthropology of Childhood (B) +3  
Anthropological approaches to the study of children and childhood. Childhood is examined as a social and historical construction, and children are analyzed as active contributors to their social worlds. Cross-cultural ethnographic material relating to children and youth is critically read and discussed. Prerequisite: a grade of "C" or better in one of: ANTH 1220 (or 076.122), ANTH 1221 (or 076.122), ANTH 1520 (or 076.152), the former 076.120, or written consent of instructor.

**NET CHANGE IN CREDIT HOURS: +3 HOURS**

#### **Catholic Studies**

Course to be introduced:

CATH 2XXX Literature and Catholic Culture 1 +3  
The course will focus on the portrayals of Catholic Culture in literature of the 20<sup>th</sup> Century prior to Vatican II Council. Students will also study the formal features of poetry, drama, and prose focusing on the Catholic Tradition. Prerequisite: a grade of "C" or better in one of: ENGL 1200 (or 004.120), ENGL 1201 (or 004.120), ENGL 1300 (or 004.130), ENGL 1301 (or 004.130), or both ENGL 1310 (or 004.131) and ENGL 1340 (or 004.134), the former 004.126, or written consent of instructor.

CATH 2XYY Literature and Catholic Culture 2 +3  
The course will focus on the portrayals of Catholic Culture in literature of the 20<sup>th</sup> and 21<sup>st</sup> Century following Vatican II Council. Students will also study the formal features of poetry, drama, and prose

involving the Catholic Tradition. Prerequisite: a grade of "C" or better in one of: ENGL 1200 (or 004.120), ENGL 1201 (or 004.120), ENGL 1300 (or 004.130), ENGL 1301 (or 004.130), or both ENGL 1310 (or 004.131) and ENGL 1340 (or 004.134), the former 004.126, or written consent of instructor.

**NET CHANGE IN CREDIT HOURS:**

**+6 HOURS**

The List of Approved Courses in Catholic Studies is being modified to include the new proposed course CATH 2XXX Literature and Catholic Culture 1, CATH 2XYY Literature and Catholic Culture 2, and HIST 2991 Histoire de l'Église catholique depuis 1540 (G).

Central and East European Studies

List B will be revised as follows:

- **Revisions to "List B"**

**Added material**

~~Deleted material~~

## List B

### Faculty of Arts

#### *Economics*

ECON 2270	European Economic History	6
ECON 2510	The Economy of Ukraine	3
ECON 4450	Comparative Economic Systems	6

#### *German and Slavic Studies*

<u>GRMN 2120</u>	<u>Introduction to German Culture 1</u>	<u>3</u>
<u>GRMN 2130</u>	<u>Introduction to German Culture 2</u>	<u>3</u>
<u>GRMN 3260</u>	<u>Representations of the Holocaust</u>	<u>3</u>
<u>GRMN 3270</u>	<u>Studies in Contemporary German Cinema</u>	<u>3</u>
<u>GRMN 3280</u>	<u>Sex, Gender and Cultural Politics in the German-Speaking World</u>	<u>3</u>
<u>GRMN 3290</u>	<u>History in Literature in German-Speaking Countries</u>	<u>3</u>
<u>GRMN 3390</u>	<u>German Representations of War</u>	<u>3</u>
RUSN 2280	Russian Culture 1	3
RUSN 2290	Russian Culture 2	3
<u>RUSN 2740</u>	<u>Literature and Revolution</u>	<u>3</u>
RUSN 2750	Contemporary Russian Literature and Film	3
<u>RUSN 2AAA</u>	<u>Masterpieces of Russian Literature in Translation</u>	<u>3</u>
<u>SLAV 2240</u>	<u>East European Literature 1</u>	<u>3</u>
<u>SLAV 2250</u>	<u>East European Literature 2</u>	<u>3</u>
<u>SLAV 2AAA</u>	<u>Russia, Ukraine and Poland – Cultures in Dialogue 1</u>	<u>3</u>
<u>SLAV 2AAB</u>	<u>Russia, Ukraine and Poland – Cultures in Dialogue 2</u>	<u>3</u>
UKRN 2770	Ukrainian Culture 1	3
UKRN 2780	Ukrainian Culture 2	3
UKRN 3670	Contemporary Ukrainian Literature	3
<u>UKRN 3850</u>	<u>Ukrainian Short Story</u>	<u>3</u>

#### *History*

HIST 2490	History of Russia	6
HIST 2600	Introduction to Ukraine	3
HIST 2610	Making of Modern Ukraine	3
HIST 2660	<del>A History of Socialism from the French Revolution to the Present</del> <u>History of the Soviet Union (E)</u>	3
<u>HIST 2661</u>	<u>Histoire de l'Union soviétique (E)</u>	<u>3</u>
HIST 2840	A History of Russia to 1917	3
<u>HIST 2841</u>	<u>Histoire de la Russie jusqu'en 1917 (E)</u>	<u>3</u>
<u>HIST 3AAA</u>	<u>German and German Jewish History, 1780-1933 (E)</u>	<u>3</u>
HIST 3030	Issues in Ukrainian History	3

HIST 3180	Modern Russian: The Soviet Era and Beyond	6
HIST 4300	Problems in Modern Russian and Soviet History	6
011.255*	History of Ukraine	6

*Political Studies*

POLS 2920	Government, Politics and Society in Ukraine	6
POLS 4810	Seminar in Marxist-Leninist and Contemporary Marxist Political Theory	6

Religion

RLGN 1350	The History of Eastern Christianity (A)	6
-----------	---	---

**Clayton H. Riddell Faculty of Environment, Earth, and Resources**

*Geography*

GEOG 3600	Geography of Ukraine	3
-----------	----------------------	---

**School of Art**

FAAH 3160	Topics in 20 <sup>th</sup> Century Art (only when topic focuses on Central and Eastern Europe)	3
-----------	--	---

FAAH 3280	Early Byzantine Art and Architecture	3
-----------	--------------------------------------	---

FAAH 3290	Later Byzantine Art and Architecture	3
-----------	--------------------------------------	---

\*indicates course no longer offered.

Drama

- Revision to "List A"

Added material

~~Deleted material~~

**List A**

English

ENGL 1200	Representative Literary Works	6
ENGL 1300	Literature since 1900	6
ENGL 2270	Canadian Literature	6
ENGL 2760	Introductory Creative Writing	3
ENGL 2960	Drama 1	3
ENGL 3010	Shakespeare	6
ENGL 3500	Creative Writing [not available for credit with ENGL 2760]	6
ENGL 3520	Studies in the Forms of Discourse	3
ENGL 3790	Advanced Creative Writing [not available for credit with ENGL 2760]	6
ENGL 3960	Drama 2	3
ENGL xxxx	English Department Special Studies courses approved in advance by the chair of the Theatre Program.	

004.126*	Twentieth-Century Literature in English	6
004.235*	American Literature of the Twentieth Century	6
004.238*	Practical Criticism	6
004.244*	Twentieth-Century British Literature	6
004.250*	Poetry and Prose of the Sixteenth Century	3
004.251*	Elizabethan and Jacobean Drama	3
004.297*	Drama 2	3
004.310*	Studies in Shakespeare	6
004.322*	Shakespeare 1 (Introductory Topics)	3
004.323*	Shakespeare 2 (Advanced Topics)	3
004.332*	Shakespeare	6
004.333*	Drama	6
004.353*	Forms of Discourse	6
004.359*	Fourteenth-Century Literature	3

\* Indicates courses no longer offered.

The content of English "Studies" courses varies from year to year; when the proportion of dramatic literature studied is acceptably high, that offering of the course may be used for credit toward a Drama Major; this is frequently the case with the former 004.311 Studies in Renaissance Literature, and the former 004.326 Studies in the Restoration and Eighteenth Century.

#### Film Studies

FILM 1290	The Art of the Film 1	3
FILM 1300*	The Art of the Film 2	3
<u>FILM 1ABC</u>	<u>Film History</u>	<u>3</u>
FILM 2280	Film and Literature	6
FILM 2300	The Popular Film	3
FILM 2330	Film and Contemporary Thought	3
FILM 2370	Experimental Cinema	3
FILM 2380	The International Cinema 1	3
FILM 2390	The International Cinema 2	3
FILM 2400	The American Film to 1950	3
FILM 2410	The American Film from 1950	3
FILM 2420	Realism and Film	3
FILM 2430	The Canadian Film	3
FILM 2460	Film Genres	3
<u>FILM 3ABC</u>	<u>Acting for the Camera</u>	<u>3</u>
<u>FILM 3DEF</u>	<u>Special Topics in Film 3</u>	<u>6</u>
FILM 3250	Selected Topics in Film 1	3
FILM 3260	Selected Topics in Film 2	3
FILM 3400	The Director's Cinema 1	3
FILM 3410	The Director's Cinema 2	3
FILM 3420	Film Theory	3
FILM 3430	Screenwriting	3

FILM 3440	Filmmaking	3
FILM 3450	The Animated Film	3
099.121*	The Art of the Film	6
099.224*	Studies in the Experimental Cinema	6
099.226*	Studies in the International Cinema	6
099.227*	The American Film	6
099.231*	The Documentary and Canadian Film	6
099.232*	Film Genres	6
099.320*	Studies in the Director's Cinema	6
099.328*	The Theory and History of Narrative Film	6

\* Indicates courses no longer offered.

## Economics

Course to be modified:

ECON 2350 Community Economic Development (Formerly 018.235) 3  
 A study of the economic development problems of northern and native communities in Manitoba. Students may not hold credit for ECON 2350 (or 18.235) and any of: NATV 3XXD or the former NATV 4310 (or 032.431). Prerequisite: none.

**NET CHANGE IN CREDIT HOURS:**

**0 HOURS**

## English

Courses to be introduced:

ENGL 3XXX Special Topics in Creative Writing 1 +3  
 This advanced studies course will include practical and theoretical components and will focus on a particular area of writing craft or poetics without an emphasis on end-of-term publication or production. Possible topics include prose fiction, poetry, memoir, dramaturgy and screenwriting. *Prerequisites:* a grade of "C" or better in ENGL 2760 (or 004.276) and written consent of the instructor, based on a sample of the student's work. Samples of writing (with name, address and telephone number) are to be submitted at the department general office no later than June 1. Enrollment for this course will be limited. NOTE: The content of this course will vary from year to year.

ENGL 3YYY Special Topics in Creative Writing 2 +6  
 This advanced studies course will include practical and theoretical components and will focus on a particular area of writing craft or poetics without an emphasis on end-of-term publication or production. Possible topics include prose fiction, poetry, memoir, dramaturgy and screenwriting. *Prerequisites:* a grade of "C" or better in ENGL 2760 (or 004.276) and written consent of the instructor, based on a sample of the student's work. Samples of writing (with name, address and telephone number) are to be submitted at the department general office no later than June 1. Enrollment for this course will be limited. NOTE: The content of this course will vary from year to year.

Courses to be modified:

ENGL 3500 Creative Writing (Formerly 004.350) +6

Classroom hours will be arranged. Students may concentrate on poetry or on prose alone. Enrolment will be limited to allow for the particular interests of students. Written consent of the instructor, based on a sample of the student's work, must be obtained before registration. Samples of writing (with name, address, and telephone number) are to be submitted to the department general office not later than June 1. Students may offer only one of ENGL 3500 (or 004.350) and ENGL 3790 (or 004.379) for credit for a Major.

NOTE: Students may offer only one of ENGL 3500 (or 004.350) and ENGL 3790 (or 004.379) for credit for a Major. If both courses are taken, however, they will be included in the total number of hours that a student has in the Major.

ENGL 3790 Advanced Creative Writing (Formerly 004.379) +6

An intensive workshop among other students at a high level of talent. The instructor will work closely with each student through individual conferences. Students will normally have taken ENGL 3500 (or 004.350) as a prerequisite to this course; however, standing in either does not automatically guarantee admission to ENGL 3790 (or 004.379). Written consent of the instructor, based on a sample of the student's work, must be obtained before registration. Samples of writing (with name, address, and telephone number) are to be submitted at the department general office no later than June 1. Students may offer only one of ENGL 3790 (or 004.379) and ENGL 3500 (or 004.350) for credit for a Major. NOTE: Students may offer only one of ENGL 3500 (or 004.350) and ENGL 3790 (or 004.379) for credit for a Major. If both courses are taken, however, they will be included in the total number of hours that a student has in the Major.

**NET CHANGE IN CREDIT HOURS: +9 HOURS**

The following revision will be made to the English Program Chart "Notes"

**Added material**

~~Deleted material~~

**NOTES:**

<sup>2</sup> Students may offer up to 6 credit hours in Film Studies courses, with the exception of FILM 1290 and FILM 1ABC (or the former FILM 1300), toward both the 3-year and the 4-year Major in English.

Film Studies

Courses to be deleted:

FILM 1300 The Art of the Film 2 +3

Courses to be introduced:

FILM 1ABC Film History +3

In this course students will examine films from more than one period in film history, exploring the relationships among and between films in terms of genre, style, theme, structure, and other aesthetic elements. Students will study films selected from various periods of world cinema, taking into consideration how and in what ways films bear the traces of their time and place, or are



- FILM 2400                    The American Film to 1950 (Formerly 152.240)                    3  
The aesthetic development of the American Film from the early days until the beginning of television. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of instructor.
- FILM 2410                    The American Film from 1950 (Formerly 152.241)                    3  
An examination of the Hollywood film from the decline of the studio system. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of instructor.
- FILM 2460                    Film Genres (Formerly 152.246)                    3  
An examination of a major cinematic genre (e.g the gangster film, the western, the musical) with emphasis upon the permanence and evolution of generic conventions and the ability of filmmakers to register personal visions within these conventions. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of instructor.
- FILM 3250                    Special Topics in Film 1 (Formerly 152.325)                    3  
An intensive examination of selected topics in film. Contents of the course will vary according to the needs and interests of students and faculty. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of instructor.
- FILM 3260                    Special Topics in Film 2 (Formerly 152.326)                    3  
An intensive examination of selected topics in film. Contents of the course will vary according to the needs and interests of students and faculty. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) and written consent of instructor.
- FILM 3400                    The Director's Cinema 1 (Formerly 152.340)                    3  
An intensive critical look at the career of one or two major filmmakers. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of instructor.
- FILM 3410                    The Director's Cinema 2 (Formerly 152.341)                    3  
An intensive critical look at the career of one or two major filmmakers. Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of Instructor.
- FILM 3420                    Film Theory (Formerly 152.342)                    3  
A survey of Film Theory from its beginnings to the present: Eisenstein to André Bazin to Christian Metz and others (film theories, not reviewers). Prerequisite: a grade of "C" or better in both FILM 1290 (or 152.129) and FILM 1ABC (or the former FILM 1300 (or 152.130)) or written consent of instructor.
- FILM 3430                    Screenwriting (Formerly 152.343)                    3  
An introduction to the techniques and procedures of screenwriting. Students will be expected to complete a screenplay. Students may not hold credit for both FILM 3430 (or 152.343) and



### Major Program

For entry to the Major, the prerequisite is a grade of "C" or better in both FILM 1290 and FILM 1300. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

### Minor Program

For entry to the Minor, the prerequisite is a grade of "C" or better in both FILM 1290 and FILM 1ABC (or the former FILM 1300).

---

### 8.11.3 Film Studies

---

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
FILM 1290 and <del>FILM 1ABC-FILM 1300</del> 24 credit hours in Film Studies courses, including FILM 3420			
<b>ADVANCED MAJOR TOTAL: 60 CREDIT HOURS</b>			
FILM 1290 and <del>FILM 1ABC-FILM 1300</del> • 42 credit hours in Film Studies including FILM 3420 and an additional 6 credit hours in courses numbered at the 3000 level • 12 credit hours from List A and B of which at least 6 credit hours must be from List A			
<b>MINOR TOTAL: 18 CREDIT HOURS</b>			
FILM 1290 and <del>FILM 1ABC-FILM 1300</del> 12 credit hours in Film Studies courses			

---

### French, Spanish and Italian – French

Course to be deleted:

FREN 4400 Littérature de la Renaissance (B) -3

Course to be introduced:

FREN 4XXA Études sur l'Ancien Régime (B) +3  
L'étude des oeuvres d'un auteur, d'une période ou d'un thème d'avant la Révolution française, du XVI<sup>e</sup> au XVIII<sup>e</sup> siècles. Le choix des oeuvres, de la période ou du thème dépendra des besoins et des intérêts des étudiants et de l'instructeur. *Prerequisite:* written consent of department head.

**NET CHANGE IN CREDIT HOURS: +0 HOURS**

There are proposed changes to the Honours Single and Honours Double program. They are as follows:

Added material

~~Deleted material~~

## French, Spanish and Italian

### 8.12.4 French

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS SINGLE<sup>1, 23</sup></b>			
FREN 1190 or FREN 1200	<ul style="list-style-type: none"> <li>• FREN 2660, FREN 2870, FREN 2910</li> <li>• FREN 2700 or FREN 3140</li> <li>• FREN 2740 or FREN 3160</li> <li>• 3 credit hours of French language or civilization courses numbered at the 2000 or 3000 level</li> <li>• 12 credit hours of ancillary options</li> </ul>	<ul style="list-style-type: none"> <li>• FREN 3100, FREN 3500, FREN 3870, FREN 3910</li> <li>• One of FREN 2680, FREN 2720, FREN 2760, FREN 3120</li> <li>• 3 credit hours of French language or civilization courses numbered at the 2000 or 3000 level</li> <li>• 6 credit hours of ancillary options</li> </ul>	<ul style="list-style-type: none"> <li>• FREN 4400, FREN 4610, FREN 4620, FREN 4640, FREN 4710, FREN 4730</li> <li>• FREN 4710 or FREN 4730</li> <li>• 9 additional credit hours of French courses numbered at the 4000 level</li> <li>• 6 additional credit hours of French courses numbered at the 3000 or 4000 level</li> <li>• 6 credit hours of ancillary options</li> </ul>
<b>HONOURS DOUBLE<sup>1, 23</sup></b>			
FREN 1190 or FREN 1200	<ul style="list-style-type: none"> <li>• FREN 2660</li> <li>• FREN 2870 or FREN 2910</li> <li>• 3 credit hours of French language or civilization courses numbered at the 2000 or 3000 level</li> <li>• 3 credit hours of French literature courses numbered at the 2000 or 3000 level</li> <li>• 12 credit hours from second Honours field</li> <li>• 6 credit hours of ancillary options</li> </ul>	<ul style="list-style-type: none"> <li>• FREN 3100 or FREN 3500</li> <li>• FREN 3870 or FREN 3910</li> <li>• 3 credit hours of French language or civilization courses numbered at the 2000 or 3000 level</li> <li>• 3 credit hours of French literature courses numbered at the 2000 or 3000 level</li> <li>• 12 credit hours from second Honours field</li> </ul>	<p>Option 1</p> <ul style="list-style-type: none"> <li>• FREN 4710 or FREN 4730</li> <li>• FREN 4730</li> <li>• 6 additional credit hours of French literature courses numbered at the 4000 level</li> <li>• 3 additional credit hours of French courses numbered at the 3000 or 4000 level</li> <li>• 12 credit hours from second Honours field</li> </ul> <p>Option 2<sup>2</sup></p> <ul style="list-style-type: none"> <li>• FREN 4710 or FREN 4730</li> <li>• 9 credit hours of French literature courses at the 4000 level</li> <li>• 12 credit hours from second Honours field</li> </ul>

#### NOTES:

<sup>1</sup> Students in Year 2 will normally take courses numbered at the 2000 level and students in Year 3 will normally take courses numbered at the 3000 level.

<sup>2</sup> Option 2 is recommended for students intending to proceed to graduate studies in French at this university.

<sup>23</sup> Ancillary options are courses taken from outside the Honours field of study.

## French, Spanish and Italian – Italian Studies

Revisions to List of “Courses Acceptable for Italian Studies”, adding the five courses. They are: HIST 2XXX Europe 1789-1870 (E), HIST 2YYY Europe 1870 to Present (E), HIST 3XXX Medieval Italy (D), HIST 3XXY Europe 1870-1918 (E), and HIST 3YYY Europe 1918-1945 (E).

## German and Slavic Studies – German

Courses to be deleted:

GRMN 3380	Special Topics in German	-3
GRMN 4530	German Literary Theory and Criticism	-3

Courses to be introduced:

GRMN 3AAA Special Topics in German 1 +3  
 Language of instruction: German. Topics dealing with German literature and culture. Course content will vary from year to year depending on interests and needs of students and staff. Prerequisite: a grade of "C" or better in GRMN 2140 or written consent of department head.

GRMN 3AAB Special Topics in German 2 +3  
 Language of instruction: English. Topics dealing with German literature and culture. Course content will vary from year to year depending on interests and needs of students and staff. Prerequisite: a grade of "C" or better in a minimum of 30 credit hours of university level coursework or written consent of department head.

GRMN 4AAA Honours Thesis in German Studies +3  
 The Thesis presents the results of an independent research project supervised by a faculty member. Prerequisite: written consent of department head.

GRMN 4AAB Literary and Cultural Theory +3  
 Language of instruction: English. A survey of the major theoretical approaches to German literatures and cultures. Discusses the aesthetics of Enlightenment and Idealism, Nietzsche, Freud, Prague Structuralism, hermeneutics, semiotics, the Frankfurt School, collective memory, gender studies, and multi-culturalism; application of theories to German literary texts and other cultural examples. Prerequisite: written consent of department head.

GRMN 4AAC Survey of Second Language Acquisition and Methods of Language Teaching in German +3  
 For advanced undergraduate students with a high proficiency in German who are interested in the learning and teaching of German as a foreign / second language; the course provides a general introduction to theories and approaches in second language acquisition (SLA) and to methods of the teaching of German as a foreign language. This course is not acceptable for credit in a Bachelor of Education program. Prerequisite: written consent of department head.

Courses to be modified:

GRMN 2140 Exploring German Literature 3  
 Language of instruction: German. In this intermediate course, we will read and discuss a number of works belonging to different literary genres by major German-speaking authors such as Kafka, Mann, Brecht, Böll, Grass, Jelinek, Wolf, and others. Activities and assignments in this course will focus on the development of reading competency in different literary genres, the expansion of students German vocabulary, and the development of German written and oral expression. Students may not hold credit for both GRMN 2140 and the former 008.245. Prerequisite: a grade of "C" or better in GRMN 2100 (or 008.210) or GRMN 2101 (or 008.210) or GRMN 3200 (or 008.320) or GRMN 3201 (or 008.320) or written consent of department head.

GRMN 2480 Special Topics in German 1 3  
 Topics dealing with German literature and culture. Course content will vary from year to year



## NET CHANGE IN CREDIT HOURS: +9 HOURS

The revisions to General Russian Major, General Ukrainian Major and Polish Minor are as follows:

### Added material

### Deleted material

---

#### 8.14.8 Russian

---

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
--------------	--------	--------	--------

---

GENERAL RUSSIAN MAJOR TOTAL: 30 CREDIT HOURS

---

6 credit hours from RUSN 1300, RUSN 1330, RUSN 2810 or RUSN 2820

~~24 credit hours in Russian courses of which at least 6 hours must be in language courses numbered at the 3000 level and 6 hours in literature courses numbered at the 3000 level~~

24 credit hours in Russian (RUSN) or Slavic Studies (SLAV) courses of which at least 6 credit hours must be in language courses numbered at the 3000 level

---

#### NOTES:

With written consent from the department head, courses offered by other departments may be approved for credit.

The following courses count as language courses: RUSN 1300, RUSN 1330, RUSN 2630, RUSN 2810, RUSN 2820, RUSN 3930.

The following courses count as literature courses: RUSN 2AAA, RUSN 2280, RUSN 2290, RUSN 2350, RUSN 2740, RUSN 2750, RUSN 2760, RUSN 3330, RUSN 3580, RUSN 3770, RUSN 3780, RUSN 3790, RUSN 3900, RUSN 3980, SLAV 2AAA, SLAV 2AAB, SLAV 2240, SLAV 2250, SLAV 3920.

---

---

#### 8.14.11 Ukrainian

---

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
--------------	--------	--------	--------

---

GENERAL UKRAINIAN MAJOR TOTAL: 30 CREDIT HOURS

---

6 credit hours from UKRN 1310, UKRN 1320, UKRN 2720 or UKRN 2730

~~24 credit hours in Ukrainian courses of which at least 6 credit hours must be in language courses numbered at the 3000 level and 6 credit hours in literature courses numbered at the 3000 level~~

24 credit hours in Ukrainian (UKRN) or Slavic Studies (SLAV) courses of which at least 6 credit hours must be in language courses numbered at the 3000 level

---

UKRAINIAN MINOR TOTAL: 18 CREDIT HOURS

---

6 credit hours from UKRN 1310, UKRN 1320, UKRN 2720 or UKRN 2730

12 credit hours in Ukrainian (UKRN) courses of which at least 3 credit hours must be in literature

---

#### NOTES:

With written consent from the department head, courses offered by other departments may be approved for credit.

The following courses count as language courses: UKRN 1230, UKRN 1270, UKRN 1310, UKRN 1320, UKRN 2260, UKRN 2720, UKRN 2730, UKRN 3700, UKRN 3950, UKRN 3960.

The following courses count as literature courses: UKRN 2420, UKRN 2430, UKRN 2510, UKRN 2520, UKRN 2590, UKRN 2710, UKRN 2770, UKRN 2780, UKRN 3440, UKRN 3670, UKRN 3840, UKRN 3850, UKRN 3880, UKRN 3910, UKRN 3970, SLAV 2AAA, SLAV 2AAB, SLAV 2240, SLAV 2250, SLAV 3920.

---

---

#### 8.14.14 Polish

---

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
--------------	--------	--------	--------

---

POLISH MINOR<sup>1</sup> TOTAL: 18 CREDIT HOURS

---

POL 1890

POL 2890

POL 2320 or POL 3890

6 credit hours from the following  
Polish/Slavic Studies courses: POL  
2320, POL 3890, SLAV 2AAA,  
SLAV 2AAB

**NOTES:**

<sup>1</sup> Students entering university with a knowledge of Polish, but without Grade 12 standing, may be granted written permission by the department head to enter 052.289.

Global Political Economy

Revisions are being made to the General Major and Advanced Major as well as to the "List of Suggested Electives"

Added material

~~Deleted material~~

**8.15.2 Global Political Economy**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 60 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• Anthropology: ANTH 2390; ANTH 3320 or SOC 3810</li> <li>• Economics: ECON 1200 or ECON 1210 and ECON 1220; ECON 2540; ECON 2550; ECON 2630 or ECON 3390</li> <li>• History: 12 credit hours from: HIST 1370, HIST 1380, HIST 1500, HIST 2380, HIST 2720</li> <li>• Political Studies: POLS 1500; POLS 2040 or POLS 2530</li> <li>• Sociology: SOC 1200; SOC 3470 or SOC 3690 or SOC 3870 or SOC 3XXO; SOC 3810 or Anthropology ANTH 3320</li> </ul>			
<b>ADVANCED MAJOR TOTAL: 78 CREDIT HOURS</b>			
<ul style="list-style-type: none"> <li>• Anthropology: ANTH 2390; ANTH 3320 or Sociology SOC 3810; ANTH 3750</li> <li>• Economics: ECON 1200 or ECON 1210 and ECON 1220; ECON 2540; ECON 2550; ECON 2630 or ECON 3390</li> <li>• Global Political Economy: GPE 2700; GPE 4700</li> <li>• History: 12 credit hours from: HIST 1370, HIST 1380, HIST 1500, HIST 2380, HIST 2720</li> <li>• Political Studies: POLS 1500; POLS 3220; POLS 3250</li> <li>• Sociology: SOC 1200; SOC 2290; SOC 3470 or SOC 3690 or SOC 3870 or SOC 3XXO; SOC 3810 or Anthropology ANTH 3320</li> </ul>			

## List of Courses for Global Political Economy

See the departmental *Calendar* section for full course descriptions.

### Anthropology

ANTH 2390	Social Organization in Cross-Cultural Perspective (B)	6
ANTH 3320	Women in Cross-Cultural Perspective (B)	3
ANTH 3750	Globalization and the World-System (B)	3

### Economics

ECON 1200	Principles of Economics	6
	or both	
ECON 1210	Introduction to Canadian Economic Issues and Policies	3
	and	
ECON 1220	Introduction to Global and Environmental Economic Issues and Policies	3
ECON 2540	Political Economy 1: Production and Distribution	3
ECON 2550	Political Economy 2: Economic Growth and Fluctuations in a Global Economic Environment	3
ECON 2630	An Introduction to the World's Economies	6
ECON 3390	Development Economics	6

### Global Political Economy

GPE 2700	Perspectives on Global Political Economy	3
GPE 4700	Studies in Global Political Economy	6

### History

HIST 1370	An Introduction to Modern World History: 1500-1800 (M)	3
HIST 1380	An Introduction to Modern World History: 1800 - Present (M)	3
HIST 1500	An Introduction to Modern World History: 1500 - Present (M)	6
HIST 2380	The Twentieth-Century World (G,M)	6
HIST 2720	The World Since 1945 (G,M)	6

### Political Studies

POLS 1500	Introduction to Politics	6
POLS 2040	Introduction to International Relations	6
POLS 2041	Introduction aux relations internationales	6
POLS 2530	Elements of Foreign Policy	6
POLS 3220	Globalization and the World Economy	3
POLS 3250	International Political Economy	3
019.383*	The Politics of International Economic Relations	6

### Sociology

SOC 1200	Introduction to Sociology	6
SOC 2290	Introduction to Research Methods	6
SOC 3470	Political Sociology	3
SOC 3690	Sociology of the Developing Societies	3
SOC 3810	Sociological Perspectives on Gender and Sexuality	3
<u>SOC 3870</u>	<u>Social Inequality</u>	<u>3</u>

<u>SOC 3871</u>	<u>Inégalités sociales</u>	<u>3</u>
<u>SOC 3XX0</u>	<u>Ecology and Society</u>	<u>3</u>

**List of Suggested Electives**

**Faculty of Arts**

Anthropology

ANTH 1220	Cultural Anthropology (A)	3
	or	
ANTH 1520	Critical Cultural Anthropology (A)	3
ANTH 2460	Peasantry in a Changing World (B)	3
ANTH 2510	Anthropology of Economic Systems (B)	3
ANTH 2530	Anthropology of Political Systems (B)	3
ANTH 2570	Urban Anthropology (B)	3
<u>ANTH 3320</u>	<u>Women in Cross-Cultural Perspective (B)</u>	<u>3</u>
ANTH 3380	Anthropology and Contemporary Social Issues (B)	3
076.244*	Peasant Society and Culture (B)	3

Asian Studies

ASIA 1420	Asian Civilizations to 1500 (Cross-listed with History HIST 1420)	3
ASIA 1430	Asian Civilizations Since 1500 (Cross-listed with History HIST 1430)	3
ASIA 2070	South Asian Civilization	6
150.211*	East Asian Civilization	6

Economics

ECON 2420	Economics of the Labour Process and Labour Relations (Cross-listed with Labour Studies LABR 2420)	3
ECON 2490	Economic Accounting	3
ECON 2560	Corporations in the Global Economy	3
<u>ECON 2630</u>	<u>An Introduction to the World's Economies</u>	<u>6</u>
ECON 3390	Development Economics	6
ECON 3660	Economic Ideas and Social Institutions	6
ECON 3710	Sustainable Development: Issues and Policy	3
ECON 4510	Economy and State in a Modern Period: Western Europe and North America	6

History

HIST 2670	History of Capitalism (M)	3
<u>HIST 2671</u>	<u>Histoire du capitalisme (M)</u>	<u>3</u>
HIST 2680	History of Socialism from the French Revolution to the Present (M)	3
HIST 2710	Women in History (G)	6
HIST 3580	Topics in Recent World History 1 (M)	3
HIST 3590	Topics in Recent World History 2 (M)	3
HIST 4010	Imperialism, Decolonization and Neo-Colonialism, 1700 to the Present (G,M)	6

HIST 4320	Studies in World History since 1945 (G,M)	3
011.341*	The British Empire and Commonwealth Since 1815 (G)	6
Labour Studies		
LABR 1270	Introduction to the Political Economy of Labour	3
LABR 1290	Introduction to the Canadian Labour Movement	3
LABR 2420	Economics of the Labour Process and Labour Relations (Cross-listed with Economics ECON 2420)	6
<u>LABR 3XXX</u>	<u>Globalization and Labour</u>	<u>3</u>
Political Studies		
POLS 2040	Introduction to International Relations	6
POLS 2041	Introduction aux relations internationales	6
POLS 2070	Introduction to Canadian Government	6
POLS 2071	Introduction au système gouvernemental canadien	6
<u>POLS 2530</u>	<u>Elements of Foreign Policy</u>	<u>6</u>
POLS 3200	International Security and Conflict Management	6
POLS 3880	Comparative Foreign Policy	3
POLS 4530	Regionalism in International Politics	3
POLS 4660	The State in the Economy	6
019.156*	Introduction to Canadian Government	6
019.273*	International Conflict Resolution	6
Sociology		
SOC 2480	Population Problems	3
<u>SOC 3470</u>	<u>Political Sociology</u>	<u>3</u>
<u>SOC 3690</u>	<u>Sociology of the Developing Societies</u>	<u>3</u>
<u>SOC 3810</u>	<u>Sociological Perspectives on Gender and Sexuality</u>	<u>3</u>
SOC 3840	Community and Social Reconstruction	3
SOC 3870	Social Inequality	3
<u>SOC 3871</u>	<u>Inégalités sociales</u>	<u>3</u>
<u>SOC 3XX0</u>	<u>Ecology and Society</u>	<u>3</u>
<b>Clayton H. Riddell Faculty of Environment, Earth, and Resources</b>		
Geography		
GEOG 1280	Introductory Human Geography	3
GEOG 2210	Economic Geography	6
GEOG 3590	Geography of Developing Countries	6
GEOG 3800	Geography of Transportation Development	3
GEOG 4640	Models in Urban Geography	3

\*indicates course no longer offered.

### Labour Studies

Courses to be introduced:

LABR 3XXX                      Globalization and Labour    +3

An examination of the impact of global capitalism on the lives of workers (both paid and unpaid) in the Global South and North in the early 21st century. Using concepts of class, gender and "race", the course addresses key challenges facing working people, the crisis of workers' movements, and new movements emerging in response to this crisis. Prerequisite: written consent of instructor.

**NET CHANGE IN CREDIT HOURS:**

**+3 HOURS**

Modifications to the General Major, Advanced Major and Minor programs and Modifications to the "List of Electives". As well, there is the deletion of "List of Core Courses for Labour Studies".

**Added material**

~~Deleted material~~

---

**8.19.3 Labour Studies**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR TOTAL: 30 CREDIT HOURS</b>			
LABR 1270 and LABR 1290	<ul style="list-style-type: none"> <li>• <u>6 credit hours of LABR courses at the 2000 level</u></li> <li>• <u>6 credit hours of LABR courses at the 3000 level</u></li> <li>• <u>12 credit hours from LABR courses and/or the list of electives below</u></li> </ul> <p>Option-1</p> <ul style="list-style-type: none"> <li>• <del>Labour Studies LABR 2420 (or Economics ECON 2420)</del></li> <li>• <del>Labour Studies LABR 3700 (or HIST 3700) or Labour Studies LABR 3510 (or Economics ECON 3510) and 12 credit hours from the list of electives below;</del></li> </ul> <p>or</p> <p>Option-2</p> <ul style="list-style-type: none"> <li>• <del>Labour Studies LABR 2420 (or Economics ECON 2420)</del></li> <li>• <del>Labour Studies LABR 3300 and 15 credit hours from the list of electives below</del></li> </ul>		
<b>ADVANCED MAJOR TOTAL: 54 CREDIT HOURS</b>			
LABR 1270 and LABR 1290	<ul style="list-style-type: none"> <li>• <u>6 credit hours of LABR courses at the 2000 level</u></li> <li>• <u>21 credit hours of LABR courses at the 3000 level</u></li> <li>• <u>LABR 4510 and LABR 4520</u></li> <li>• <u>12 credit hours from LABR courses and/or the list of electives below</u></li> </ul> <p>Option-1</p> <ul style="list-style-type: none"> <li>• <del>Labour Studies LABR 2420 (or Economics ECON 2420), LABR 3010, LABR 3070, LABR 3700 (or History HIST 3700), LABR 4510<sup>†</sup>, LABR 4520<sup>†</sup></del></li> <li>• <del>Labour Studies LABR 3510 (or Economics ECON 3510) and 15 credit hours from the list of electives below;</del></li> </ul> <p>or</p> <p>Option-2</p> <ul style="list-style-type: none"> <li>• <del>Labour Studies LABR 2420 (or Economics ECON 2420), LABR 3010, LABR 3070, LABR 3700 (or History HIST 3700), LABR 4510<sup>†</sup>, LABR 4520<sup>†</sup></del></li> <li>• <del>Labour Studies LABR 3300 and 18 credit hours from the list of electives below</del></li> </ul>		

---

**MINOR TOTAL: 18 CREDIT HOURS**

---

LABR 1270 and LABR 1290

- 6 credit hours of LABR courses at the 2000 level
- 6 credit hours of LABR courses at the 3000 level

**Option 1**

- Labour Studies LABR 2420 (or Economics ECON 2420)
- Labour Studies LABR 3510 (or Economics ECON 3510) or Labour Studies LABR 3700 (or History HIST 3700);

or

**Option 2**

- Labour Studies LABR 2420 (or Economics ECON 2420)
  - Labour Studies LABR 3300 and 3 credit hours from the list of electives below
- 

**NOTES:**

<sup>3</sup> Courses LABR 4510 and LABR 4520 may only be taken in the final year of the program and require written consent of the Labour Studies program coordinator.

---

**List of Core Courses for Labour Studies**

## Labour Studies

LABR 1270	Introduction to the Political Economy of Labour	3
LABR 1290	Introduction to the Canadian Labour Movement	3
LABR 2420	Economics of the Labour Process and Labour Relations (same as Economics ECON 2420)	6
LABR 3010	Labour Law	3
LABR 3070	Labour Relations and Occupational Health and Safety Law	3
LABR 3300	Workers, Employers and the State	3
LABR 3510	Industrial Relations (same as Economics ECON 3510)	6
LABR 3700	History of Working People and Labour Movements 1700 to the Present (C) (same as History HIST 3700)	6
LABR 4510	Labour Studies Field Placement Seminar	3
LABR 4520	Labour Studies Field Placement	6
153.128*	Introduction to Labour Institutions and Problems	3

\* No longer offered

**List of Electives**

The following courses may be selected to fulfill the requirements for a degree in Labour Studies (see the table above for details). Other courses might be chosen for this purpose, in accordance with students' individual interests, but require advance permission from the Labour Studies coordinator. Students are responsible for ensuring that all prerequisites have been met. In the following list (H) indicates an Honours course.

**Faculty of Arts**

## Economics

ECON 2280	Social Welfare and Human Resources	6
ECON 2350	Community Economic Development	3
ECON 2360	Women in the Canadian Economy	6
ECON 2500	Labour and Technology (same as Labour Studies LABR 2450)	3
ECON 3170	Introduction to Quantitative Methods in Economics	3
ECON 3300	Canadian Economic History	6

ECON 3360	Labour Economics	6
ECON 3510	Industrial Relations (same as Labour Studies LABR 3510)	6
ECON 3660	Economic Ideas and Social Institutions	6
History		
HIST 2670	History of Capitalism (M)	3
<u>HIST 2671</u>	<u>Histoire du capitalisme (M)</u>	<u>3</u>
HIST 2680	A History of Socialism from the French Revolution to the Present (M)	3
HIST 2690	The Common People in Industrial Society (G)	6
HIST 2710	Women in History (G)	6
HIST 2720	The World Since 1945 (G,M)	6
HIST 2970	Modern Canada: 1921 to the Present (C)	6
HIST 2971	Le Canada moderne: de 1921 à nos jours (C) (CUSB)	6
HIST 3050	Canada since 1945 (C)	6
HIST 3210	The History of Popular Radicalism in the Twentieth Century (M)	6
HIST 3570	History of Women in Canada (C)	6
HIST 3700	History of Working People and Labour Movements 1700 to the Present (G) (same as Labour Studies LABR 3700)	6
HIST 3730	A History of Western Canada (C)	6
HIST 4030	The History of Communism and Socialism since 1945 (M) (H)	6
Labour Studies		
LABR 2440	Economic and Social Measurement	3
LABR 2450	Labour and Technology (same as Economics ECON 2500)	3
LABR 3010	Labour Law	3
LABR 3030	Labour and the Bargaining Process	3
LABR 3060	Workplace Health and Safety	3
LABR 3070	Labour Relations and Occupational Health and Safety	3
LABR 3110	Special Studies in Labour Studies	3
LABR 3120	Special Studies in Labour Studies	3
LABR 3130	Employment Legislation and the Protection of Workers	3
LABR 3140	Pensions and Benefits	3
LABR 3150	Labour Adjustment	3
LABR 3200	Workers' Self-Management	3
LABR 3300	Workers, Employers and the State	3
LABR 3510	Industrial Relations (same as Economics ECON 3510)	6
LABR 3700	History of Working People and Labour Movements 1700 to the Present (G) (same as History HIST 3700)	6

153.308*	Workers' Self-Management	6
Native Studies		
NATV 3320	Aboriginal Organizations	3
Philosophy		
PHIL 2290	Ethics and Society	6
PHIL 2830	Business Ethics	3
PHIL 3710	Critiques of Contemporary Society	6
Political Studies		
POLS 4570	Public Organizational Management (H)	6
POLS 4660	The State in the Economy (H)	6
019.487*	Government and Public Sector Unionism (H)	3
Psychology		
PSYC 3510	Organizational Psychology	3
PSYC 3600	Environmental Psychology	3
Sociology		
SOC 2290	Introduction to Research Methods	6
SOC 3370	Sociology of Work	3
SOC 3371	Sociologie du travail (CUSB)	3
SOC 3470	Political Sociology	3
SOC 3471	Sociologie politique (CUSB)	3
SOC 3820	Qualitative and Historical Methods in Sociology	3
SOC 3870	Social Inequality	3
SOC 3871	Inégalités sociales (CUSB)	3
Women's Studies		
WOMN 2500	Race, Class and Sexuality	3
WOMN 3550	Feminist Community Organizing: Theories and Practices	3
<b>I.H. Asper School of Business (Faculty of Management)</b>		
Business Administration		
GMGT 2030	Administrative Theory	3
GMGT 2080	Introduction to Management and Organization Theory	3
GMGT 3030	Contemporary Social Issues in Business	3
HRIR 2440	Human Resource Management	3
HRIR 3430	Selected Topics in Industrial Relations	3
HRIR 3450	Labour and Employment Relations (or the former 027.341)	3
HRIR 4420	Compensation	3
HRIR 4480	Collective Bargaining and Administration	3
HRIR 4520	Comparative Industrial Relations and Human Resource Management	3
Interdepartmental Courses		
IDM 3000	Aboriginal Business Context: Influences and Impacts	3

- No longer offered
- 

### Native Studies:

#### Courses to be deleted:

NATV 3320	Aboriginal Organizations	-3
NATV 3340	Circumpolar Cultures and Lifestyles	-3
NATV 4260	Sacred Lands and Sacred Spaces of Indigenous Peoples	-3
NATV 4270	Indigenous Peoples' Material Culture	-3
NATV 4310	Exploring Aboriginal Economic Perspectives	-3

#### Courses to be introduced:

NATV 2XXX	Indigenous Women's Stories	+3
This course will investigate through the medium of literature - life writing, fiction, creative non-fiction, poetry and film experiences of Indigenous women in North America, particularly in Canada, as articulated in their voices. Prerequisite: a grade of "C" or better in NATV 1200 (or 32.120) or NATV 1220 (or 32.122) and NATV 1240 (or 32.124), or written consent of the instructor or department head.		
NATV 3XXC	Indigenous Environmental Discourse	+3
This course is designed to further an in-depth understanding of Indigenous perspectives on the environment (rural and urban) through the critical analysis of poetry, essays, fiction, film and art by Indigenous writers, scholars and (media) artists. Prerequisite: a grade of "C" or better in NATV 2410 (or 032.241) or written consent of instructor or department head.		
NATV 3XXD	Exploring Aboriginal Economic Perspectives	+3
Explore the impact of legal, constitutional and governance issues on the internal and external operating environment affecting economic development by Aboriginal peoples. Current strategies for successful partnerships between industry and Aboriginal peoples will also be examined. Students may not hold credit for NATV 3XXD and any of: ECON 2350 (or 018.235), IDM 3000 (or 098.300), or the former NATV 4310 (or 032.431). Prerequisite: a grade of "C" or better in NATV 1200 (or 032.120), or NATV 1220 (or 032.122) and NATV 1240 (or 032.124), or written consent of instructor or department head.		
NATV 3XYY	International Indigenous Literatures	+3
This course will compare selected texts by Indigenous authors from Canada, U.S.A., New Zealand and Australia. Following the history of the respective literature in each country, it will examine the role of Indigenous writing — poetry, fiction, plays — in de/colonization processes in settler societies. Prerequisite: a grade of "C" or better in NATV 2410 (or 032.241) or written consent of instructor or department head.		
NATV 3YYX	Aboriginal Resistance Writing	+3
This course will trace and explore the history and practice of Canadian Aboriginal resistance writing. Attention will be given to political and creative writing in contrapuntal response to the Canadian colonial situation. Classes will be based largely on seminar discussions and readings. Prerequisite: a grade of "C" or better in NATV 2410 (or 032.241) or written consent of instructor or department head.		



**Faculty of Arts**

## Anthropology

ANTH-2040	Native North America: A Sociocultural Survey (B)	3
ANTH-2620	New World Prehistory (D)	3
ANTH-2630	New World Civilizations (D)	3
ANTH-2640	Manitoba Prehistory (D)	3
ANTH-3460	Native North American Ethnology (B)	3
ANTH-3500	Peoples of the Arctic (B)	3
076.345*	Native North America: A Sociocultural Survey (B)	3
076.358*	North American Indians: A Sociocultural Survey	3
076.359*	North American Indian Ethnology	3

## Economics

ECON-2350	Community Economic Development	3
-----------	--------------------------------	---

## History

HIST-2280	Aboriginal History of Canada <sup>®</sup>	6
HIST-3690	History of Northern Canada <sup>®</sup>	6
011.254*	North American Indian (A,C,S)	6

## Sociology

SOC-2370	Ethnic Relations	3
----------	------------------	---

**Asper School of Business**

IDM 3000	Aboriginal Business Context: Influences and Impacts	3
IDM 4090	Aboriginal Business Leadership	3

**Faculty of Education**

EDUA-1540	Cross-cultural Education	3
116.303*	Cross-cultural Education	3

**Clayton H. Riddell Faculty of Environment, Earth, and Resources**

## Geography

053.369*	Historical Geography of Indian Peoples in the Canadian Fur Trade	6
053.378*	Historical Geography of Canadian Indians (A)	6

**School of Art**

FAAH 2090	Art of the North American Aboriginal Peoples	3
FAAH 3430	Inuit Art	3
054.358*	Inuit Culture and Art	3
054.373*	Art of the North American Native Peoples	3

**Faculty of Music**

033.386*	Topics in Music (when the topic is "Music in Traditional Aboriginal Society")	3
----------	---	---

\* Indicates course no longer offered

**Psychology**

Course to be deleted:

PSYC 3330	Elements of Physiological Psychology	-3
PSYC 4500	Psychological Tests	-3
PSCY 4570	Design and Analysis for Psychological Experiments	-3

Courses to be introduced:

PSYC 3XXX            Design and Analysis for Psychological Experiments            +3  
 Methods for controlling sources of internal validity in psychological experiments, such as randomization, blocking, factorial configurations, and repeated measurements, will be discussed. Descriptive and multivariate methods of analysis will also be introduced. The use of statistical packages will be illustrated. Students may not hold credit for both PSYC 3XXX and the former PSYC 4570 (or 017.457). Prerequisite: a grade of "C" or better in one of : PSYC 2300 (or 017.230), or both PSYC 2250 (or 017.225) and PSYC 2260 (or 017.226), or both PSYC 2251 (or 017.225) and PSYC 2261 (or 017.226); and written consent of department head.

PSCY 3YYY            Behavioural Neuroscience            +3  
 This course presents the fundamentals of the neurobiology of behaviour. Special importance is placed on the information-processing properties of the nervous system in order to provide a uniform framework for the understanding of such topics as perception, attention, sleep and wakefulness, motivation, and learning. Students may not hold credit for PSYC 3YYY and any of PSYC 3YY1, the former PSYC 3330 (or 017.333), the former PSYC 3331 (or 017.333). Prerequisite: a grade of "C" or better in one of the following: PSYC 1200 (or 017.120) or PSYC 1201 (or 017.120), or both PSYC 1211 (or 017.121) and PSYC 1221 (or 017.122), or written consent of the department head.

Courses to be modified:

PSYC 3370            Principles of Physiological Psychology (formerly 017.337)            3  
 This course provides an in-depth examination of the important issues and areas of physiological psychology, with emphasis on recent and exciting developments. Biological systems and processes that underlie behaviour and experience will be studied. Prerequisite: a grade of "C" or better in one of: PSYC 3YYY or PSYC 3YY1 or the former PSYC 3330 (017.333) or the former PSYC 3331 (017.333) or written consent of department head.

PSYC 4520            Honours Research Seminar (Formerly 017.452)            6  
 In first term there will be an examination of important experimental issues, and several experimental assignments. In addition, each student will propose a research project of greater scope to be conducted under the supervision of a Psychology staff member. In second term, students will carry out their projects and report their findings. Prerequisite: 90 credit hours towards honour program, including a grade of "C" or better in three credit hours in PSYC 3630 (or 017.363), PSYC 3631 (or 017.363), PSYC 3XXX, the former PSYC 4500 (or 017.450), or the former PSYC 4570 (or 017.457); and written consent of department head.

PSYC 4630            Behavioural Endocrinology (formerly 017.463)            3  
 A comparative approach is adopted to examine how hormones influence a diversity of behaviours through their actions on brain function, the physiological substrates of the behaviours, and their development as evolutionary adaptations. Techniques used by behavioural neuroscientists to study the behavioural and neuroendocrine interactions are surveyed. Prerequisite: [a grade of "C" or better in one of: PSYC 3YYY or PSYC 3YY1 or the former PSYC 3330 (107.333) or the former PSYC 3331 (017.3330) and written consent of department head.

**NET CHANGE IN CREDIT HOURS:**

**-3 HOURS**

Modifications to program chart for Honours Single and Honours Double Programs: PSYC 4500 or PSYC 4570 is to be removed from year 3 and PSCY 3XXX added to year 3. In the notes section Category E, PSYC 3330 is to be deleted and replaced with PSCY 3YYY,

### Religion

Courses to be deleted:

RLGN 3770	Paul the Apostle (A)	-6
RLGN 4400	Studies in Contemporary Theology (C)	-6

Courses to be introduced:

RLGN 2XXO Religion and Healing +3  
 A study of concepts of illness, health and healing, of therapeutic rituals, and of healing figures, in selected world religions.

RLGN 3XXO Paul and the Letters (A) +3  
 A study of Paul of Tarsus and his writings, this course will address topics pertaining to the historical Paul, the Pauline and deutero-Pauline letters, the social history of Pauline communities, and approaches to the study of Paul and his communities. Students may not hold credit for both RLGN 3XXO and the former RLGN 3770 (or 020.377). Prerequisite: written consent of instructor or department head.

RLGN 4XXO Advanced Studies in Christian Origins (A) +3  
 With content varying year to year, this course will engage topics pertaining to the first 300 years of Christianity. Theoretical and methodological issues will be considered, as will literary and archaeological data for the study of nascent Christianity. Prerequisite: written consent of instructor or department head.

RLGN 4XYO Advanced Studies in Mysticism (C) +3  
 With religious traditions of focus varying year to year, this course considers current scholarly approaches to the understanding of mysticism and sainthood. It includes study of mystic texts and treatises; the mystic body; mystic communities; ascetic ritual and practice. Prerequisite: written consent of instructor or department head.

**NET CHANGE IN CREDIT HOURS: +0 HOURS**

### Sociology

Courses to be deleted:

SOC 4470	Research Methods 1	-3
SOC 4480	Research Methods 2	-3

Courses to be introduced:

SOC 3XXO Ecology and Society +3  
 Examines changing patterns of social organization of civilizations, the resultant social constructions of the human/nature interface, the human social contribution to the global ecological crisis, and possible



L'étudiant(e) qui détient le crédits du HIST 2661 ne peut se faire créditer aucun des cours HIST 2660 (ou 011.266), HIST 2490 (ou 011.249), ou l'ancien HIST 3471 (ou 011.347). Donné au Collège universitaire de Saint-Boniface.

HIST 2671 Histoire du capitalisme (M) +3  
Étude de l'émergence et de l'évolution de capitalisme ainsi que de ses conséquences sociales du 15<sup>e</sup> siècle jusqu'à nos jours. L'étudiant(e) ne peut se faire créditer à la fois le HIST 2671 et le HIST 2670 (ou 011.267). Donné au Collège universitaire de Saint-Boniface.

HIST 2841 Histoire de la Russie jusqu'en 1917 (E) +3  
Un survol historique du développement de la Russie jusqu'à la fin de la période impériale. L'étudiant(e) qui détient le crédits du HIST 2841 ne peut se faire créditer aucun des cours HIST 2840 (ou 011.284), HIST 2490 (ou 011.249), ou l'ancien HIST 3471 (ou 011.347).  
Donné au Collège universitaire de Saint-Boniface.

HIST 2991 Histoire de l'Église catholique depuis 1540 (G) +3  
Histoire de l'Église catholique depuis 1540 jusqu'à nos jours. On portera attention particulièrement à la réponse que l'Église a donnée à la modernisation du monde ainsi qu'à l'évolution théologique et aux réformes institutionnelles. L'étudiant(e) ne peut se faire créditer a la fois le HIST 2991 et le HIST 2990 (ou 011.299). Donné au Collège universitaire de Saint-Boniface.

HIST 3111 Sujets spéciaux 1(G) +3  
L'occasion d'étudier un thème choisi en histoire. Le contenu varie mais doit comprendre un travail en histoire sociale ou culturelle ou sur un sujet spécifique. Consulter le département d'histoire et le Guide d'inscription. Préalable: avoir obtenu une note minimale de C dans six crédits en histoire ou l'autorisation écrite de la professeure ou du professeur. Donné au Collège universitaire de Saint-Boniface.

HIST 3121 Sujets spéciaux 2 (G) +3  
L'occasion d'étudier un thème choisi en histoire. Le contenu varie mais doit comprendre un travail en histoire sociale ou culturelle ou sur un sujet spécifique. Consulter le département d'histoire et le Guide d'inscription. Préalable: avoir obtenu une note minimale de C dans six crédits en histoire ou l'autorisation écrite de la professeure ou du professeur. Donné au Collège universitaire de Saint-Boniface.

HIST 3XX1 La Guerre au 20<sup>e</sup> siècle (G) +3  
Ce cours aborde le phénomène de la guerre au 20<sup>e</sup> siècle dans tous ses aspects: militaires, économiques, sociaux, culturels, humains. Il sera question des deux guerres mondiales et de la Guerre froide mais aussi des guerres régionales ou locales. Nous traiterons aussi des différentes formes que la guerre a prises au siècle dernier: décolonisation, guérilla, terrorisme. Préalable: avoir obtenu une note minimale de C dans six crédits en histoire ou l'autorisation écrite de la professeure ou du professeur. Donné au Collège universitaire de Saint-Boniface.

HIST 3XY1 Histoire de l'Éducation en Occident depuis 1500, une introduction (M) +3  
Introduction à l'histoire de l'éducation en Occident. Présentation des grands jalons au cours des cinq cents dernières années. Parmi les thèmes abordés, il y aura la création et de l'évolution des différents niveaux d'écoles, la programmation, le financement, la place de l'Église et celle de l'État dans l'éducation, les méthodes d'enseignement, les différences entre les sexes, la progression de l'alphabétisation et de la scolarisation. Préalable: avoir obtenu une note minimale de C dans six crédits en histoire ou l'autorisation écrite de la professeure ou du

professeur. Donné au Collège universitaire de Saint-Boniface.

HIST 3YX1 Histoire de la démocratie (G) +3

Ce cours aborde un sujet au coeur de l'actualité: la démocratie et, plus spécialement la démocratisation des États dans le monde depuis le 19<sup>e</sup> siècle. Nous abordons les aspects théoriques de la démocratie et l'évolution de la mise en pratique de la théorie démocratique. Préalable: avoir obtenu une note minimale de C dans six crédits en histoire ou l'autorisation écrite de la professeure ou du professeur. Donné au Collège universitaire de Saint-Boniface.

**NET CHANGE IN CREDIT HOURS: +9 HOURS**

St. Boniface College – Psychology

Courses to be deleted:

PSYC 3331 Éléments de psychologie physiologique -3

Courses to be introduced:

PSYC 3YY1 Neurosciences du comportement +3

PSYC 3YY1 Neurosciences du comportement +3

Ce cours présente les fondements de la neurobiologie du comportement. Une importance particulière est placée dans les propriétés du traitement de l'information du système nerveux de façon à offrir un cadre de référence à la compréhension de thèmes tels la perception, l'attention, le sommeil et la vigilance, la motivation et l'apprentissage. L'étudiant(e) qui détient les crédits du PSYC 3YY1 ne peut se faire créditer aucun des cours PSYC 3YYY, l'ancien PSYC 3331 (ou 017.333), ou l'ancien PSYC 3330 (ou 017.333). Préalable: une note minimale de C dans un des cours suivants: PSYC 1200 (ou 017.120) ou PSYC 1201 (ou 017.120), ou tous les deux PSYC 1211 (ou 017.121) et PSYC 1221 (ou 017.122), ou l'autorisation écrite du professeur. Donné au Collège universitaire de Saint-Boniface.

**NET CHANGE IN CREDIT HOURS: +0 HOURS**

St. Boniface College – Traduction

Courses to be modified:

TRAD 1181 Introduction à l'espagnol (L'ancien 122.118) 6

Ce cours est destiné aux étudiants et étudiantes n'ayant aucune connaissance de l'espagnol ou n'en ayant qu'une connaissance minimale. L'accent sera mis sur la vocabulaire, la grammaire et l'acquisition d'aptitudes orales et écrites au moyen d'exercices divers et de pratique au laboratoire. Les activités de laboratoire alterneront avec des sessions de conversation en groupes. La participation active de l'étudiante ou de l'étudiant est une exigence du cours. On ne peut se faire créditer à la fois la TRAD 1181 et les TRAD 1261 (ou 122.126) (ou en SPAN 1260 ou 044.126), SPAN 1180 (ou 044.118), SPAN 1280, ou SPAN 1XXL. Les étudiants et les étudiantes dont l'espagnol est la langue maternelle et ceux qui possèdent déjà les crédits du cours d'espagnol de secondaire 4 ou l'équivalent ne peuvent s'inscrire à ce cours. Donné au Collège universitaire de Saint-Boniface.

TRAD 1261 Espagnol intermédiaire (L'ancien 122.126) 3

Révision intensive de la grammaire et du vocabulaire étudiés en TRAD 1181 (ou SPAN 1180) ou en Espagnol 40S. Pratique et perfectionnement des connaissances en classe et au laboratoire. On ne peut se faire créditer à la fois le TRAD 1261 et les SPAN 1260 (ou 044.126), SPAN 1280, ou SPAN 1XXL. Préalable: au moins "C" dans le TRAD 1181 (ou 122.118) (ou en SPAN 1180 ou 044.118) ou l'équivalent en Espagnol 40S, ou l'autorisation écrite du professeur. Donné au Collège universitaire de Saint-Boniface.

TRAD 1271 Espagnol oral 1 (L'ancien 122.127) 3  
 Ce cours s'adresse aux étudiants de niveau intermédiaire qui ne parlent pas couramment l'espagnol et souhaitent perfectionner leurs compétences orales (compréhension, correction grammaticale). Pratique intensive de la langue parlée en classe et au laboratoire de langue à partir de thèmes de discussion contemporains et de sujets d'actualité, de politique et de culture, en rapport avec le monde hispanique. On ne peut se faire créditer à la fois le TRAD 1271 et les SPAN 1270 (ou 044.127), SPAN 1280, ou SPAN 1XXL. Préalable: au moins "C" dans le TRAD 1261 (ou 122.126) (ou en SPAN 1260 ou 044.126) ou l'autorisation écrite du professeur. Donné au Collège universitaire de Saint-Boniface.

TRAD 2361 Espagnol commercial (L'ancien 122.236) 3  
 Initiation au vocabulaire commercial et aux techniques d'écriture dans le domaine des affaires. L'accent sera mis sur la composition appliquée au domaine commercial; rédaction de lettres, comptes rendus d'activités ou de réunions, etc. Préalable: une note minimale de C dans un des cours suivants: TRAD 1261 (ou 122.126), SPAN 1260 (ou 044.126), SPAN 1XXL, ou l'autorisation écrite du professeur. Donné au Collège universitaire de Saint-Boniface.

TRAD 2571 El español a través del cine hispanoamericano (L'ancien 122.257) 3  
 Ce cours vise à familiariser les étudiants avec les cultures espagnole et latino-américaine à partir d'oeuvres cinématographiques issues de ces cultures. L'accent sera mis sur la discussion et l'expression orale. Préalable: au moins C dans le TRAD 1271 (ou 122.127) ou SPAN 1270 (ou 044.127) ou SPAN 1XXL, ou l'autorisation écrite du professeur. Donné au Collège universitaire de Saint-Boniface.

**NET CHANGE IN CREDIT HOURS: +0 HOURS**

**School of Art**

Course to be introduced:

STDO 2450 Introduction to Digital Photography +6  
 Introduction to Digital Photography is a studio course introducing the basic technical foundation and critical understanding of contemporary photo-based image production. Prerequisites: STDO 1200 (or 054.120) and STDO 1220 (or 054.122).

**NET CHANGE IN CREDIT HOURS: +6 HOURS**

**Faculty of Dentistry- School of Dental Hygiene**

Courses to be deleted:

HGYN 1230	Oral and Dental Anatomy	-4
HGYN 1240	Preclinical and Clinical Dental Hygiene	-9
HGYN 1260	Radiology	-4
HGYN 1350	Community Health I	-4

HGYN 1290	Preclinical Restorative Dentistry Techniques for Dental Hygienists	-4
HGYN 2310	Dental Hygiene	-15
HGYN 2360	Community Health II	-4

Courses to be introduced:

HYGN 1AAA Oral and Dental Anatomy +3

This course consists of a self-study CD and laboratory work dealing with the normal development, morphology, structure and function of the dentition and related structures. Self-Study (30) Lab (45) Seminar (15). Corequisites: HYGN 1AAB. Not to be held with HYGN 1230 or 070.123.

HYGN 1AAB Preclinical Dental Hygiene +2

This introductory course teaches the necessary dental hygiene clinical skills in laboratory and preclinical settings. Students are introduced to foundational assessment and implementation skills necessary to begin client care at the novice level. Corequisite: HYGN 1AAC. Not to be held with HYGN 1240 or 070.124.

HYGN 1AAC Dental Hygiene Theory & Practice I +4

This introductory course provides the necessary foundational knowledge requisite for preclinical experience and early client care. It includes the theory and principles underlying the practice of dental hygiene based on the four phases of the Dental Hygiene Process of Care and the concept of Professionalism. Corequisite: HYGN 1AAB. Not to be held with HYGN 1240 or 070.124.

HYGN 1AAD Dental Hygiene Clinical Practice I +3

The course focus is on the cognitive, psychomotor and affective knowledge and skills requisite to the dental hygiene process of care. It includes the principles underlying the practice of dental hygiene and facilitates the development of a self-directed and self-aware professional. Clinic: 180 hrs. Prerequisites: HYGN 1AAB; HYGN 1AAC Corequisite: HYGN 1AAE. Not to be held with HYGN 1240 or 070.124.

HYGN 1AAE Dental Hygiene Theory & Practice II +4

A continuation of foundational knowledge requisite for clinical care on less complicated clients that includes the theory and principles underlying the practice of dental hygiene based on the Dental Hygiene Process of Care. lecture: 60 hrs. Prerequisites: HYGN 1AAB; HYGN 1AAC Corequisite: HYGN 1AAD. Not to be held with HYGN 1240 or 070.124.

HYGN 1AAF Dental Radiology +3

An Introduction to the production of x-rays, radiation biology, radiation protection, imaging materials, imaging techniques, recognition of radiographic landmarks and structures, and quality control of radiographs. Lecture (20) and Clinical Practice (28) Corequisites: 1AAB (Term I); 1AAD (Term II). Not to be held with HYGN 1260 or 070.126.

HYGN 1AAG Community Health I +3

An Introductory, participatory course in community oral health promotion intended to inspire a sense of community responsibility in students as health professionals responding to community needs through classroom teaching; interviews and debates. Lecture (45) Field (6), total 51 hrs. Not to be held with HYGN 1350 or 070.135.

HYGN 1AAH Dental Hygiene Preclinical Restorative Techniques +2

A study of the principles and techniques of restorative dentistry. Introduction Information on restorative dentistry specialties. Lecture (1) Laboratory (45) 60 hrs. Corequisite: HYGN 1320. Not to be held with









UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS 120 CREDIT HOURS</b>			
ENVR 1000, ENVR 2000, BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310, <b>MATH 1500<sup>3</sup></b> , STAT 1000 Plus 6 credit hours from the Faculty of Arts <sup>4</sup> Plus 6 credit hours from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500	ENVR 2170, <b>ENVR 2XY0</b> , BOTN 2370 (ZOO 2370 or AGE 2370), ECON 2390 (ABIZ 2390), PHYS 1020 <sup>5</sup> , STAT 2000, ENVR 2350, ENVR 2550, PHIL 2750 Plus the remaining courses from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500 <b>One of PHYS 1030<sup>5</sup>, MATH 1200, MATH 1300<sup>6</sup>, MATH 1700<sup>6</sup></b> <b>One of GEOG 1290 or GEOL 1340 (OR GEOL 1440)</b>	ENVR 3110, ENVR 3150, ENVR 3250, ENVR 4110, <b>ENVR 4500</b> Plus 33 credit hours in an approved Focus Area <sup>2</sup>	
It is recommended that students complete the W course in University 1 or Year 2			
<b>HONOURS COOPERATIVE OPTION 120 CREDIT HOURS</b>			
ENVR 1000, ENVR 2000, BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310, <b>MATH 1500<sup>3</sup></b> , STAT 1000 Plus 6 credit hours from the Faculty of Arts <sup>4</sup> Plus 6 credit hours from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500	ENVR 2170, <b>ENVR 2XY0</b> , BOTN 2370 (ZOO 2370 or AGE 2370), ECON 2390 (ABIZ 2390), PHYS 1020 <sup>5</sup> , STAT 2000, ENVR 2900, ENVR 2350, ENVR 2550, PHIL 2750 Plus the remaining courses from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500 <b>One of PHYS 1030<sup>5</sup>, MATH 1200, MATH 1300<sup>6</sup>, MATH 1700<sup>6</sup></b> <b>One of GEOG 1290 or GEOL 1340 (OR GEOL 1440)</b>	ENVR 3110, ENVR 3150, ENVR 3250, ENVR 4110, <b>ENVR 4500</b> Plus 33 credit hours in an approved Focus Area <sup>2</sup> ENVR 3900, ENVR 3980, ENVR 3990, ENVR 3910, ENVR 3920 (ENVR 4980 and ENVR 4910 are optional)	
It is recommended that students complete the W course in University 1 or Year 2			
<b>MAJOR 120 CREDIT HOURS</b>			
ENVR 1000, ENVR 2000, BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310, <b>MATH 1500<sup>3</sup></b> , STAT 1000 Plus 6 credit hours from the Faculty of Arts <sup>4</sup> Plus 6 credit hours from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500	ENVR 2170, <b>ENVR 2XY0</b> , BOTN 2370 (ZOO 2370 or AGE 2370), ECON 2390 (ABIZ 2390), PHYS 1020 <sup>5</sup> , STAT 2000, ENVR 2350, ENVR 2550, PHIL 2750 Plus the remaining courses from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500 <b>One of PHYS 1030<sup>5</sup>, MATH 1200, MATH 1300<sup>6</sup>, MATH 1700<sup>6</sup></b> <b>One of GEOG 1290 or GEOL 1340 (OR GEOL 1440)</b>	ENVR 3110, ENVR 3150, ENVR 3250, ENVR 4110 Plus 33 credit hours in an approved Focus Area <sup>2</sup>	
It is recommended that students complete the W course in University 1 or Year 2			
<b>MAJOR COOPERATIVE OPTION 120 CREDIT HOURS</b>			
ENVR 1000, ENVR 2000, BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310, <b>MATH 1500<sup>3</sup></b> , STAT 1000 Plus 6 credit hours from the Faculty of Arts <sup>4</sup> Plus 6 credit hours from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500	ENVR 2170, <b>ENVR 2XY0</b> , BOTN 2370 (ZOO 2370 or AGE 2370), ECON 2390 (ABIZ 2390), PHYS 1020 <sup>5</sup> , STAT 2000, ENVR 2900, ENVR 2350, ENVR 2550, PHIL 2750 Plus the remaining courses from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500 <b>One of PHYS 1030<sup>5</sup>, MATH 1200, MATH 1300<sup>6</sup>, MATH 1700<sup>6</sup></b> <b>One of GEOG 1290 or GEOL 1340 (OR GEOL 1440)</b>	ENVR 3110, ENVR 3150, ENVR 3250, ENVR 4110 Plus 33 credit hours in an approved Focus Area <sup>2</sup> ENVR 3900, ENVR 3980, ENVR 3990, ENVR 3910, ENVR 3920 (ENVR 4980 and ENVR 4910 are optional)	
It is recommended that students complete the W course in University 1 or Year 2			
<b>GENERAL 90 CREDIT HOURS</b>			
ENVR 1000, ENVR 2000, BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310, <b>MATH 1500<sup>3</sup></b> , STAT 1000	ENVR 2170, <b>ENVR 2XY0</b> , BOTN 2370 (ZOO 2370 or AGE 2370), ECON 2390 (ABIZ 2390), PHYS 1020 <sup>5</sup> , STAT 2000, ENVR 2350, ENVR 2550, PHIL 2750	ENVR 3110, ENVR 3150, ENVR 3250, ENVR 4110	

<b>1500<sup>3</sup></b> , STAT 1000	2000, ENVR 2350, ENVR 2550, PHIL 2750	Plus 9 credit hours in an approved Focus Area
Plus 6 credit hours from the Faculty of Arts <sup>4</sup>	Plus the remaining courses from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500	
Plus 6 credit hours from STAT 1000, STAT 2000, GEOL 1340, PHYS 1020, PHYS 1030, MATH 1500	<b>One of PHYS 1030<sup>5</sup>, MATH 1200, MATH 1300<sup>6</sup>, MATH 1700<sup>6</sup></b>	
	<b>One of GEOG 1290 or GEOL 1340 (OR GEOL 1440)</b>	

**MINOR 18 CREDIT HOURS**

ENVR 1000, ENVR 2000	12 credit hours in ENVR
----------------------	-------------------------

**NOTES:**

<sup>1</sup>Entry into the degree programs is summarized in 7.2.1 of this Chapter.

<sup>2</sup>The courses required in this program will satisfy the university mathematics requirements.

<sup>3</sup>MATH 1510, MATH 1520 or MATH 1530 may be taken in place of MATH 1500. MATH 1690 may be taken in place of MATH 1500 (or equivalent) and MATH 1700.

<sup>4</sup>**It is recommended that students consider a selection from Other Note 1 below when selecting courses from the Faculty of Arts.**

<sup>5</sup>PHYS 1050 and PHYS 1070 may be used in lieu of PHYS 1020 and PHYS 1030, respectively.

<sup>6</sup>MATH 1310 and MATH 1710 may be taken in place of MATH 1300 and MATH 1700, respectively.

<sup>7</sup>**Focus Area courses must include a minimum of 21 credit hours at the 3000- and/or 4000-level. Focus Area performance requirements are defined in section 7.3 of this Chapter.**

<sup>8</sup>**IMPORTANT:** The Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

**NOTES:**

<sup>a</sup>To fulfil prerequisite requirements, a grade of "C" must be achieved, unless otherwise stated, in any course stipulated as a prerequisite to a further course.

<sup>b</sup>Students should review the current course topics available through ENVR 3000 (3), ENVR 3010 (1.5), ENVR 3020 (3), ENVR 4000 (3), ENVR 4010 (1.5), and ENVR 4020 (3) as well as those offered through GEOG 3770 (3) and GEOG 4670 (3). Also, all courses are not offered every year or every session. The course schedule for the current academic session is available from the online calendar at [www.umanitoba.ca/calendar](http://www.umanitoba.ca/calendar).

<sup>c</sup>Students registering in certain courses may be required to participate in field trips or field components and pay a portion of the associated expenses. For details, contact the Department of Environment and Geography general office.

**PROPOSED CHANGES:**

1. ENVR 2350, ENVR 2550, ENVR 3110, ENVR 3150, and PHIL 2750 are deleted as requirements in the degree program. These courses are moved to the Focus Area selections.
2. ENVR 2XY0 is introduced as a second year course following the renumbering of ENVR 3650. This course provides an introduction to environmental law
3. MATH 1500 is a specified course requirement in the degree program.
5. PHYS 1030 is removed as a specified course requirement in the degree program. Students are now provided an opportunity to choose 3 credit hours among PHYS 1030 (or PHYS 1070), MATH 1300 (or MATH 1310), or MATH 1700.
6. GEOL 1340 is removed as a specified course requirement in the degree program. Students are now provided an opportunity to choose 3 credit hours among GEOG 1290, GEOL 1340, or GEOL 1440.
7. The credit hour requirements for the Focus Area are modified to 33 credit hours. This represents an increase of 3 credit hours for the Major students and a reduction of 6 credit hours for Honours students.
8. In addition to the Focus Area, Honours students must complete 6 credit hours in ENVR 4500 Project in Environmental Science.
9. The Focus Area must include a minimum of 21 credit hours at the 3000- and/or 4000- levels. Students may use 1000-level courses to meet other Focus Area requirements if necessary, as approved by the student advisor.

**7.6 Bachelor of Environmental Studies<sup>1,2,9</sup>**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS 120 CREDIT HOURS</b>			
ENVR 1000, ENVR 2000, GEOG 1280 <sup>3</sup> , GEOG 1290 <sup>3</sup> , NATV 1220 <sup>4</sup> , NATV 1240, BIOL 1010 <sup>5</sup> , STAT 1000, GEOL 1440 Plus 6 credit hours from the Faculty of Arts <sup>6</sup> Plus 6 credit hours from the Social Sciences/Humanities list	ENVR 2350, ENVR 2XY0, ECON 2390 (ABIZ 2390), BOTN 2280 (ZOO 2290) <sup>5</sup> , GEOG 2620, PHIL 2750  Plus 3 credit hours from List B7  Plus the remaining courses from STAT 1000, GEOL 1440, and BIOL 1010 not yet taken	GEOG 3680, ENVR 3110, ENVR 3150, ENVR 4110, ENVR 4500  Plus 33 credit hours in an approved Focus Area <sup>8</sup>	

It is recommended that students complete the W course in University 1 or Year 2

---

**HONOURS COOPERATIVE OPTION 120 CREDIT HOURS**

---

ENVR 1000, ENVR 2000, GEOG 1280<sup>3</sup>,  
GEOG 1290<sup>3</sup>, NATV 1220<sup>4</sup>, NATV 1240,  
BIOL 1010<sup>5</sup>, STAT 1000, GEOL 1440  
Plus 6 credit hours from the Faculty of Arts<sup>6</sup>  
Plus 6 credit hours from the Social  
Sciences/Humanities list

ENVR 2350, **ENVR 2XY0**, ECON 2390 (ABIZ  
2390), BOTN 2280 (ZOO 2290)<sup>5</sup>, ENVR 2900, GEOG  
2620, PHIL 2750

Plus 3 credit hours from List B7

Plus the remaining courses from STAT 1000, GEOL 1440, and BIOL 1010 not yet  
taken

**GEOG 3680**, ENVR 3110, ENVR 3150, ENVR  
4110, **ENVR 4500**

Plus **33** credit hours in an approved Focus Area<sup>8</sup>

ENVR 3900, ENVR 3910, ENVR 3920, ENVR  
3980, ENVR 3990 (ENVR 4980 and ENVR 4920  
are optional)

---

It is recommended that students complete the W course in University 1 or Year 2

---

**MAJOR 120 CREDIT HOURS**

---

ENVR 1000, ENVR 2000, GEOG 1280<sup>3</sup>,  
GEOG 1290<sup>3</sup>, NATV 1220<sup>4</sup>, NATV 1240,  
BIOL 1010<sup>5</sup>, STAT 1000, GEOL 1440  
Plus 6 credit hours from the Faculty of Arts<sup>6</sup>  
Plus 6 credit hours from the Social  
Sciences/Humanities list

ENVR 2350, **ENVR 2XY0**, ECON 2390 (ABIZ  
2390), BOTN 2280 (ZOO 2290)<sup>5</sup>, GEOG 2620, PHIL 2750

Plus 3 credit hours from List B7

Plus the remaining courses from STAT 1000, GEOL 1440, and BIOL 1010 not yet  
taken

**GEOG 3680**, ENVR 3110, ENVR 3150, ENVR  
4110

Plus **33** credit hours in an approved Focus Area<sup>8</sup>

It is recommended that students complete the W course in University 1 or Year 2

---

**MAJOR COOPERATIVE OPTION 120 CREDIT HOURS**

---

ENVR 1000, ENVR 2000, GEOG 1280<sup>3</sup>,  
GEOG 1290<sup>3</sup>, NATV 1220<sup>4</sup>, NATV 1240,  
BIOL 1010<sup>5</sup>, STAT 1000, GEOL 1440  
Plus 6 credit hours from the Faculty of Arts<sup>6</sup>  
Plus 6 credit hours from the Social  
Sciences/Humanities list

ENVR 2350, **ENVR 2XY0**, ECON 2390 (ABIZ  
2390), BOTN 2280 (ZOO 2290)<sup>5</sup>, ENVR 2900, GEOG  
2620, PHIL 2750

Plus 3 credit hours from List B7

Plus the remaining courses from STAT 1000, GEOL 1440, and BIOL 1010 not yet  
taken

**GEOG 3680**, ENVR 3110, ENVR 3150, ENVR  
4110

Plus **33** credit hours in an approved Focus Area<sup>8</sup>

ENVR 3900, ENVR 3910, ENVR 3920, ENVR  
3980, ENVR 3990 (ENVR 4980 and ENVR 4920  
are optional)

---

It is recommended that students complete the W course in University 1 or Year 2

---

**GENERAL 90 CREDIT HOURS**

---

ENVR 1000, ENVR 2000, GEOG 1280<sup>3</sup>,  
GEOG 1290<sup>3</sup>, NATV 1220<sup>4</sup>, NATV-1240,  
BIOL 1010<sup>5</sup>, STAT 1000, GEOL-1440  
Plus 6 credit hours from the Faculty of Arts<sup>6</sup>  
Plus 6 credit hours from the Social  
Sciences/Humanities list

ENVR 2350, ENVR 2XY0, ECON 2390 (ABIZ  
2390), BOTN 2280 (ZOO 2290)<sup>5</sup>, GEOG-3620, PHIL-2750

Plus 3 credit hours from List B7

Plus the remaining courses from STAT 1000, GEOL-1440, and BIOL-1010 not yet  
taken

GEOG 3680, ENVR-3110, ENVR-3150, ENVR  
4110

Plus 9 credit hours in an approved Focus Area

---

**MINOR 18 CREDIT HOURS**

---

ENVR 1000, ENVR 2000,

12 credit hours in ENVR

**NOTES:**

<sup>1</sup>Entry into the degree programs is summarized in 7.2.2.

<sup>2</sup>The courses required in this program will satisfy the university mathematics requirements.

<sup>3</sup>GEOG 1200, GEOG 1201, GEOG 1281, or GEOG 1291 may be used in lieu of GEOG 1280 and GEOG 1290.

<sup>4</sup>Students are permitted to substitute NATV 1220 with another 3 credit hours from the department or approved alternative course. See the student advisor for assistance.

<sup>5</sup>Students with an interest in the Conservation and Biodiversity Focus Area are advised to complete the combination of BIOL 1020 and BIOL 1030 as well as BOTN 2370 (ZOO 2370 or AGE 2370) instead of BOTN 1010 and BOTN 2280 (ZOO 2290).

<sup>6</sup>It is recommended that students consider a selection from Other Note 1 below when selecting courses from the Faculty of Arts

<sup>7</sup>Students must complete 3 credit hours of course work containing significant international content. Students are referred to Other Note 2 for a list of available courses. Students may substitute with another course as approved by the student advisor.

<sup>8</sup>Focus Area courses must include a minimum of 24 21 credit hours at the 3000- and/or 4000-level. Focus Area performance requirements are defined in section 7.3 of this Chapter.

<sup>9</sup>**IMPORTANT:** The Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program.

**NOTES:**

▣To fulfil prerequisite requirements, a grade of "C" must be achieved, unless otherwise stated, in any course stipulated as a prerequisite to a further course.

▣Students should review the current course topics available through ENVR 3000 (3), ENVR 3010 (1.5), ENVR 3020 (3), ENVR 4000 (3), ENVR 4010 (1.5), and ENVR 4020 (3) as well as those offered through GEOG 3770 (3) and GEOG 4670 (3). Also, all courses are not offered every year or every session. The course schedule for the current academic session is available from the online calendar at [www.umanitoba.ca/calendar](http://www.umanitoba.ca/calendar).

▣Students registering in certain courses may be required to participate in field trips or field components and pay a portion of the associated expenses. For details, contact the Department of Environment and Geography general office.

---

**Other Note 1:****List A: Recommended List of Faculty of Arts Electives**

Students may wish to consider courses from the following list when identifying appropriate selections from the Faculty of Arts.

ANTH 1210 Human Origins and Antiquity Cr.Hrs.3

ANTH 1220 Cultural Anthropology Cr.Hrs.3

ANTH 1520 Critical Cultural Anthropology Cr.Hrs.3

ECON 1200 Principles of Economics Cr.Hrs.6

ECON 1210 Introduction to Canadian Economic Issues and Policies Cr.Hrs.3

ECON 1220 Introduction to Global and Environmental Economic Issues and Policies Cr.Hrs.3

NATV 1200 The Native Peoples of Canada Cr.Hrs.6

NATV 1220 The Native Peoples of Canada, Part 1 Cr.Hrs.3

NATV 1240 The Native Peoples of Canada, Part 2 Cr.Hrs.3

PHIL 1200 Introduction to Philosophy Cr.Hrs.6

PHIL 1290 Critical Thinking Cr.Hrs.3

PHIL 1320 Introductory Logic Cr.Hrs.6

PHIL 1330 Introduction to Symbolic Logic Cr.Hrs.6

PHIL 1510 Historical Introduction to Philosophy Cr.Hrs.6

RLGN 1420 Ethics in World Religions Cr.Hrs.3

RLGN 2180 Theory of Nature Cr.Hrs.3

Other Note 2:

List B: Courses containing significant international content

ABIZ 1010 Economics of World Issues and Policies Cr.Hrs.3

ECON 2550 Political Economy 2: Economic Growth and Fluctuations in a Global  
Economic Environment Cr.Hrs.3

ECON 3670 International Trade Cr.Hrs.3

POLS 2040 Introduction to International Relations.Hrs.6

POLS 3220 Globalization and the World Economy Cr.Hrs.3

POLS 3250 International Political Economy Cr.Hrs.3

GEOG 4260 Sacred Lands Cr.Hrs.3

or approved by the student advisor

**PROPOSED CHANGES**

1. GEOL 1440 is deleted from the required core.
2. The requirement of 15 credit hours of Social Science/Humanities is deleted. Students complete 6 credit hours from the Faculty of Arts and a recommended list is provided through "Other Note 1". Students complete a minimum of 3 credit hours of coursework with a significant international content. A list of recommended courses is provided through List B in "Other Note 2", or through consultation with the student advisor.
3. Students are required to complete 3 credit hours of NATV. This is currently defined as NATV 1220 but is not intended to restrict students from picking any course from the offerings in the department.
4. ENVR 3110, 3150, GEOG 2620, and PHIL 2750 are deleted from the required courses in the degree program.
5. ENVR 2XY0 and GEOG 3680 are introduced as required courses in the degree program.
6. Honours requirements include a 6 credit hour project course (ENVR 4500).
7. Focus Area requirements are defined as 33 credit hours with a minimum of 21 credit hours at the 3000- and/or 4000-levels. Students may use 1000-level courses to complete a portion of the Focus Area as required and approved by the student advisor.

The following charts are for Environmental Science and Environmental Studies changes to the admission and performance requirements:

**a). Bachelor of Environmental Science**

<b>Bachelor of Environmental Science Entry Requirements</b>			
<b>Degree Program in B.Env.Sc.</b>	<b>Minimum Number of Credit Hours</b>	<b>Minimum Cumulative Grade Point Average</b>	<b>Additional Entrance Requirements</b>
Honours	48	3.25	No failures on entry; a grade of "B" or better in ENVR 1000 and ENVR 2000 as well as a minimum "C+" in BIOL 1020 <sup>2</sup> and BIOL 1030 <sup>2</sup> or CHEM 1310 <sup>2</sup> and "C" in the other course.
Honours (Coop) <sup>1</sup>	60	3.25	ENVR 2900; students must satisfy the requirements for entry/continuation in the regular program and (normally) have completed ENVR 1000, ENVR 2000, ENVR 2170, <u>ENVR 2XY0</u> , ENVR 2350, ENVR 2550 (CHEM 2550), STAT 1000 <sup>2</sup> , STAT 2000 <sup>2</sup> , BOTN 2370 <sup>2</sup> (ZOO 2370 <sup>2</sup> or AGE 2370), ECON 2390 (ABIZ 2390), BIOL 1020 <sup>2</sup> , BIOL 1030 <sup>2</sup> <u>and one of GEOG 1290<sup>2</sup> or GEOL 1340.</u>

Major	24	2.00	12 credit hours in ENVR 1000, ENVR 2000, BIOL 1020 <sup>2</sup> , BIOL 1030 <sup>2</sup> , CHEM 1300 <sup>2</sup> , CHEM 1310 <sup>2</sup> , STAT 1000 <sup>2</sup> , STAT 2000 <sup>2</sup> , MATH 1500 <sup>2</sup> (or MATH 1200 <sup>2</sup> , MATH 1300 <sup>2</sup> , MATH 1310, MATH 1510, MATH 1520, MATH 1530), <b>one of GEOG 1290<sup>2</sup> or</b> GEOL 1340, PHYS 1020 <sup>2</sup> (or PHYS 1050 <sup>2</sup> ), PHYS 1030 <sup>2</sup> (or PHYS 1070 <sup>2</sup> ), with a grade of "C+" or better in six of the 12 credit hours, and a grade of "C" or better in the remaining six credit hours.
Major (Coop) <sup>1</sup>	60	2.50	ENVR 2900; students must satisfy the requirements for continuation in the regular program and (normally) have completed ENVR 1000, ENVR 2000, ENVR 2170, <b>ENVR 2XY0</b> , ENVR 2350, ENVR 2550 (CHEM 2550), STAT 1000 <sup>2</sup> , STAT 2000 <sup>2</sup> , BOTN 2370 <sup>2</sup> (ZOOL 2370 <sup>2</sup> or AGECE 2370), ECON 2390 (ABIZ 2390), BIOL 1020 <sup>2</sup> , BIOL 1030 <sup>2</sup> , <b>and one of GEOG 1290<sup>2</sup> or</b> GEOL 1340.
General	48	2.00	

<sup>1</sup>Students may be permitted to enter the program without satisfying all requirements listed. Students should consult with the Cooperative Education Coordinator for further information.

<sup>2</sup>Equivalent courses offered through Collège universitaire de Saint-Boniface may be used in lieu of the specified course identified in the entry requirements chart. Collège universitaire de Saint-Boniface courses end in the number '1' (e.g. GEOG 1291).

### b). Bachelor of Environmental Studies

#### Bachelor of Environmental Studies Entry Requirements

Degree Program in B.Env.St.	Minimum Number of Credit Hours	Minimum Cumulative Grade Point Average	Additional Entrance Requirements
Honours	48	3.25	No failures on entry; a grade of "B" or better in ENVR 1000 and ENVR 2000; GEOG 1280 <sup>2</sup> (GEOG 1200 <sup>2</sup> ) and GEOG 1290 <sup>2</sup> (GEOG 1200 <sup>2</sup> ), <b>ENVR 2XY0</b> , <del>NATV 1220 and NATV 1240 (or NATV 1200)</del> with a grade of "C+" or better in six of the <del>12</del> <sup>15</sup> credit hours, and a grade of "C" or better in the remaining <del>six</del> <b>nine</b> credit hours.
Honours (Coop) <sup>1</sup>	60	3.25	ENVR 2900; students must satisfy the requirements for entry/continuation in the regular program and (normally) have completed ENVR 1000, ENVR 2000, ENVR 2350, <b>ENVR 2XY0</b> , GEOG 1280 <sup>2</sup> (GEOG 1200 <sup>2</sup> ) and GEOG 1290 <sup>2</sup> (GEOG 1200 <sup>2</sup> ), <del>NATV 1220 and NATV 1240 (or NATV 1200)</del> , GEOL 1440, ECON 2390 (ABIZ 2390), STAT 1000 <sup>2</sup> , one of BOTN 2280 (ZOOL 2290) or BOTN 2370 <sup>2</sup> (ZOOL 2370 <sup>2</sup> or AGECE 2370), and one of BIOL 1010 <sup>2</sup> , BIOL 1020 <sup>2</sup> , or BIOL 1030 <sup>2</sup> .
Major	24	2.00	12 credit hours taken from ENVR 1000, ENVR 2000, BIOL 1010 <sup>2</sup> (or BIOL 1020 <sup>2</sup> or BIOL 1030 <sup>2</sup> ), STAT 1000 <sup>2</sup> , NATV 1220, NATV 1240, and/or 1000- and 2000-level courses in Geography, Native Studies, Anthropology, Economics, History, Philosophy, Political

			Studies, Sociology, Women's Studies; with a grade of "C+" or better in six of the 12 credit hours, and a grade of "C" or better in the remaining six credit hours.
Major (Coop) <sup>1</sup>	60	2.50	ENVR 2900; students must satisfy the requirements for continuation in the regular program and (normally) have completed ENVR 1000, ENVR 2000, ENVR 2350, <u>ENVR 2XY0</u> , GEOG 1280 <sup>2</sup> (GEOG 1200 <sup>2</sup> ) and GEOG 1290 <sup>2</sup> (GEOG 1200 <sup>2</sup> ); NATV 1220 and NATV 1240 (or NATV 1200), GEOL 1440, ECON 2390 (ABIZ 2390), STAT 1000 <sup>2</sup> , one of BOTN 2280 (ZOO 2290) or BOTN 2370 <sup>2</sup> (ZOO 2370 <sup>2</sup> or AGE 2370), and one of BIOL 1010 <sup>2</sup> , BIOL 1020 <sup>2</sup> or BIOL 1030 <sup>2</sup> .
General	48	2.00	

<sup>1</sup>Students may be permitted to enter the program without satisfying all requirements listed. Students should consult with the Cooperative Education Coordinator for further information.

<sup>2</sup>Equivalent courses offered through Collège universitaire de Saint-Boniface may be used in lieu of the specified course identified in the entry requirements chart. Collège universitaire de Saint-Boniface courses end in the number '1' (e.g. GEOG 1201).

i) Minimum Performance for Graduation

Minimum Performance Requirements						
Minimum Performance Requirements				Additional Graduation Requirements <sup>1,2</sup>		
Degree Program (Credit Hours)	Minimum Cumulative Grade Point Average (GPA)	Maximum Credit Hours of Failures/ Repeated Courses	Minimum Grade Requirements in ENVR 1000, ENVR 2000, ENVR 2350, ENVR 3110, ENVR 3150 and ENVR 4110	Focus Area	Minimum credit hours of course work completed at the 3000- and 4000-levels	Coop Option Courses
General (90)	2.00	48		9 credit hours		
Major (120)	2.00	18	"C"	30 <del>33</del> credit hours of which 18 <del>21</del> must be at the 3000- or 4000-level; minimum cumulative GPA of 2.00.	<u>33 credit hours</u>	ENVR 2900, ENVR 3900, ENVR 3910, ENVR 3980, ENVR 3920, ENVR 3990; (ENVR 4910 and ENVR 4980 are optional)
Major (Coop) (120)	2.50					
Honours (120)	3.25	18		39 <del>33</del> credit hours of which 24 <del>21</del>		

Honours (Coop) (120)	3.25	18	"B" in ENVR 1000 and ENVR 2000; "C+" grades in others	must be at the 3000- or 4000- level; completion of ENVR 3500 or ENVR 4500; minimum cumulative GPA of 3.00; minimum "C+" grade in each course.	<b>39 credit hours</b>	ENVR 2900, ENVR 3900, ENVR 3910, ENVR 3980, ENVR 3920, ENVR 3990; (ENVR 4910 and ENVR 4980 are optional)
----------------------------	------	----	---	--	------------------------	--

<sup>1</sup>Students in the B.Env.St. must complete 15 credit hours of 1000- and 2000-level courses from 3 subject areas from Anthropology, Economics, History, Philosophy, Political Studies, Sociology and Women's Studies, or others as approved by the Faculty student advisor.

<sup>2</sup>Students must satisfy the residence requirement for the degree program in order to be eligible for graduation. This is defined as either a total of 48 or the last 24 credit hours at the University of Manitoba.

## Physical Geography

Physical Geography program chart will reflect the deletion of course ENVR 2350 from the required list of Cooperative Education Courses.

## Geological Sciences

Courses to be modified:

GEOL 4260 Applied Geophysics Field Course (Formerly 007.426) 3  
One and one-half weeks field instruction in the planning and execution of geophysical surveys and the use of portable geophysical instruments. Offered in 2007 Summer 2 term and alternate years thereafter. Taught with the first half of GEOL 4740 (or 007.474). Not to be held for credit with GEOL 4740 (or 007.474), Prerequisite: GEOL 3810 (or 007.381) (or the former 007.380), or consent of department.

GEOL 4740 Geophysics Field Course (Formerly 007.474) 6  
Three weeks of making geophysical surveys. Starts immediately following April examinations. Maps and reports to be submitted at the end of the three-week period. Students are responsible for costs of room and board during the field course. Offered in 2007 Summer I term and in alternate years thereafter. Not to be held with GEOL 4260 (or 007.426). Prerequisite: GEOL 3810 (or 007.381) (or the former 007.380), or consent of department.

GEOL 4810 Geophysical Data Analysis (Lab Required) (Formerly 007.481) 3  
The theory and application of spectral methods in geophysics. The use of Fourier Transforms, convolution, power spectra, coherence, transfer functions, covariance, correlation and filtering. Offered in 2007-2008 and in alternate years thereafter. Prerequisite: PHYS 2490 (or 016.237), or consent of department.

There are a number of program modifications which are reflected in the following tables and charts:

**Table 2A. Proposed Geophysics Honours Program**

	Course No	Cr.	Name
Year 1	GEOL 1340/1440	3	Dynamic Earth or Introduction to Dynamic Earth
	GEOL 1350/1360/1370	3	Evolving Earth, Environmental Earth Science, or Earth in Space
	PHYS 1050/1020	3	Physics I: Mechanics or General Physics

	PHYS 1070	3	Physics II: Waves and Modern Physics
	MATH 1210 <sup>1</sup>	3	Classical and Linear Algebra
	MATH 1710 <sup>1</sup>	3	Applied Calculus II
	MATH 1710 <sup>1</sup>	3	Applied Calculus II
		6	6 credit hours from the Faculty of Arts
		3	3 credit hours of electives
		<b>30</b>	
Year 2	GEOL 2060	3	Introductory Geophysics
	GEOL 2540	3	Introductory Mineralogy with Essentials of Mineral Optics
	GEOL 2520	3	Igneous and Metamorphic Petrology
	GEOL 2530	3	Introductory Sedimentary Petrology and Stratigraphy
	GEOL 2440	3	Structural Geology
	PHYS 2390	3	Theoretical Physics 1
	PHYS 2490	3	Theoretical Physics 2
	MATH 2AB0 <sup>1</sup>	3	Engineering Mathematical Analysis I
	MATH 2AC0 <sup>1</sup>	3	Engineering Mathematical Analysis II
	COMP 1010	3	Introductory Computer Science I
		<b>30</b>	
Year 3/4	GEOL 3130	3	Communication Methods in the Geosciences
	GEOL 3810	3	Applied Geophysics
	GEOL 3740	3	Exploration Seismology
	PHYS 2600	3	Electromagnetic Field Theory
	MATH 2120	4	Introductory Numerical Methods for Engineers
	CHEM 1300	3	University 1 Chemistry: Structure and Modelling Chemistry
	GEOL 4670	3	Global Tectonics
	GEOL 4810	3	Geophysical Data Analysis
	GEOL 4870	6	Honours Thesis
	A-courses (Geophysics Courses)	9	GEOL 4250 Theory and Applic. of Geophysical Inversion Methods, GEOL 4320 Phys. of the Earth: Seismology and Heat Flow, GEOL 4330 Phys. of the Earth: Grav. and Geomagnetism
	B-courses (Geoscience and Science Electives)	9	GEOL 4830 Remote Sensing and GIS; GEOL 2770 Principles of Inorganic Geochemistry; GEOL 2390 Environmental Geology; GEOL 3110 Petrogenesis of Igneous Rocks; GEOL 3290 Metamorphism, Structure, and Tectonics; GEOL 3420 Engineering Geology; GEOL 3490 Glacial Geol. and Geomorph.; GEOL 3750 Geol. and Geophys. of the Planets; GEOL 3900 Sedimentology; GEOL 3910 Intro. to Field Mapping; GEOL 4370 Global Change; GEOL 4520 Petroleum Geol.; GEOL 4890 Basin Analysis; GEOL 4270 Adv. Studies in Earth Sciences; GEOL 4300 Mineral Deposits; ; GEOL 4910 Adv. Field Mapping; any remaining A- or P-course; or Geological Sciences, Physics, or Math. course approved by department.
	P-courses (Physical Science Courses)	6	PHYS 2610 Circuit Theory and Intro. Electronics; PHYS 2650 Classical Mechanics 1; PHYS 3670 Classical Thermodynamics; PHYS 3630 Electromagnetic Theory; CHEM 2290 Chemical Energetics and Dynamics: Macroscopic Descriptions; MECH 2260 Introduction To Fluid Mechanics; or physical science course approved by department.
		<b>55</b>	
Intersess	GEOL 4740	6	Geophysics Field School
<b>Total</b>		<b>121</b>	

1. Science math. stream: MATH 1300, MATH 1500, MATH 1700, MATH 2720, MATH 2730, MATH 2600 (18 cr hrs) can be substituted for Eng. math. stream MATH 1210, MATH 1510, MATH 1710, MATH 2AB0, MATH 2AC0, MATH 2120 (19 cr hrs).

**Table 2B. Proposed Geophysics Major Program**

	Course No	Cr.	Name
Year 1	GEOL 1340/1440	3	Dynamic Earth or Introduction to Dynamic Earth
	GEOL 1350/1360/1370	3	Evolving Earth, Environmental Earth Science, or Earth in Space
	PHYS 1050 or 1020	3	Physics I: Mechanics/General Physics
	PHYS 1070	3	Physics II: Waves and Modern Physics
	MATH 1210 <sup>1</sup>	3	Classical and Linear Algebra
	MATH 1710 <sup>1</sup>	3	Applied Calculus II
	MATH 1710 <sup>1</sup>	3	Applied Calculus II
			6
		3	3 credit hours of electives
		<b>30</b>	
Year 2	GEOL 2060	3	Introductory Geophysics
	GEOL 2540	3	Introductory Mineralogy with Essentials of Mineral Optics
	GEOL 2520	3	Igneous and Metamorphic Petrology
	GEOL 2530	3	Introductory Sedimentary Petrology and Stratigraphy
	GEOL 2440	3	Structural Geology
	PHYS 2390	3	Theoretical Physics 1
	PHYS 2490	3	Theoretical Physics 2
	MATH 2AB0 <sup>1</sup>	3	Engineering Mathematical Analysis I
	MATH 2AC0 <sup>1</sup>	3	Engineering Mathematical Analysis II
COMP 1010	3	Introductory Computer Science I	
		<b>30</b>	
Year 3/4	GEOL 3130	3	Communication Methods in the Geosciences
	GEOL 3810	3	Applied Geophysics
	GEOL 3740	3	Exploration Seismology
	PHYS 2600	3	Electromagnetic Field Theory
	MATH 2120	4	Introductory Numerical Methods for Engineers
	CHEM 1300	3	University 1 Chemistry: Structure and Modelling Chemistry
	GEOL 4670	3	Global Tectonics
	GEOL 4810	3	Geophysical Data Analysis
	GEOL 4920	3	Technical Report
	A-courses (Geophysics Courses)	6	GEOL 4250 Theory and Applic.of Geophys. Inversion Methods, GEOL 4320 Phys. of the Earth: Seismology and Heat Flow, GEOL 4330 Phys. of the Earth: Grav and Geomagnetism
	B-courses (Geoscience and Science Electives)	6	GEOL 4830 Remote Sensing and GIS; GEOL 2390 Environ. Geol.; GEOL 2770 Prin. of Inorganic Geoch.; GEOL 3110 Petrogenesis of Igneous Rocks; GEOL 3290 Metamorphism, Structure, and Tectonics; GEOL 3420 Engineering Geol.; GEOL 3490 Glacial Geol. and Geomorph.; GEOL 3750 Geol. and Geophys. of the Planets; GEOL 3900 Sedimentology; GEOL3910 Intro. to Field Mapping; GEOL4370 Global Change; GEOL 4520 Petroleum Geol.; GEOL 4890 Basin Analysis; GEOL 4270 Adv. Studies in Earth Sciences; GEOL4300 Mineral Deposits; GEOL 4910 Adv. Field Mapping; any remaining A- or P-course; or Geological Sciences, Physics, or Math. course approved by department.
	P-courses (Physical Science Courses)	3	PHYS 2610 Circuit Theory and Intro. Electronics; PHYS 2650 Classical Mechanics 1; PHYS 3670 Classical Thermodynamics; PHYS 3630 Electromagnetic Theory; CHEM 2290 Chemical Energetics and Dynamics: Macroscopic Descriptions; MECH 2260 Introduction To Fluid Mechanics; or alternative physical science course approved by department.
		12	12 credit hours of electives
	<b>55</b>		
Intersess	GEOL 4740	6	Geophysics Field School

Total	121
-------	-----

1. Science math. stream: MATH 1300, MATH 1500, MATH 1700, MATH 2720, MATH 2730, MATH 2600 (18 cr hrs) can be substituted for Eng. math. stream MATH 1210, MATH 1510, MATH 1710, MATH 2AB0, MATH 2AC0, MATH 2120 (19 cr hrs).

**Table 3. Elective Courses in the Geophysics Programs**

Course Type	Requirement	List of possible courses
Geophysics Courses (A-courses)	Honours: 9 cr. Hrs Major: 6 cr. hrs	GEOL 4250 Theory and Applic. of Geophysical Inversion Methods, GEOL 4320 Physics of the Earth: Seismology and Heat Flow, GEOL 4330 Physics of the Earth: Gravity and Geomagnetism.
Geoscience and Science Courses (B-courses)	Honours: 6 cr hrs Major: 3 cr. hrs	GEOL 4830 Remote Sensing and GIS; GEOL 2390 Environmental Geology; GEOL 2770 Principles of Inorganic Geochemistry; GEOL 3110 Petrogenesis of Igneous Rocks; GEOL 3290 Metamorphism, Structure, and Tectonics; GEOL 3420 Engineering Geology; GEOL 3490 Glacial Geology and Geomorphology; GEOL 3750 Geology and Geophysics of the Planets; GEOL 3900 Sedimentology; GEOL 3910 Introduction to Field Mapping; GEOL 4370 Global Change; GEOL 4520 Petroleum Geology; GEOL 4890 Basin Analysis; GEOL 4270 Advanced Studies in Earth Sciences; GEOL 4300 Mineral Deposits; ; GEOL 4910 Adv. Field Mapping; any remaining A- or P-course; or Geological Sciences, Physics, or Mathematics course approved by department.
Physical Science (P-courses)	Honours: 6 cr hrs Major: 3 cr. hrs	PHYS 2610 Circuit Theory and Intro. Electronics; PHYS 2650 Classical Mechanics 1; PHYS 3670 Classical Thermodynamics; PHYS 3630 Electromagnetic Theory; CHEM 2290 Chemical Energetics and Dynamics: Macroscopic Descriptions; MECH 2260 Introduction to Fluid Mechanics; or physical science course approved by department.

**Table 4. Core Courses in the Geophysics Programs**

Removal	Addition	Comment
	CHEM 1300 University 1 Chemistry: Structure and Modelling in Chemistry	To satisfy professional registration requirements.
MATH 3100 Mathematical Methods for Engineers III MATH 3810 Partial Differential Equations 1		Removed as core due to overlap with Theoretical Physics but could still be taken as B course. As for previous item for students taking the Science mathematics stream.
MATH 3110 Mathematical Methods and Complex Analysis MATH 3700 Applied Complex Analysis	MATH 2120 Introductory Numerical Methods for Engineers MATH 2600 Numerical Mathematics 1	Substitution of a mathematics course that is more suitable for geophysics students. As for previous item for students taking the Science mathematics stream.
	MATH 1210 Classical and Linear Algebra	Accommodate changes in Mathematics courses.
MATH 2100 Mathematics methods for Engineers 1 and MATH 2110 Mathematical Methods for Engineers 1	MATH 2AB0 Engineering Mathematical Analysis I and MATH 2AC0 Engineering Mathematical Analysis II	Accommodate changes in Mathematics courses.

PHYS 2610 Circuit Theory and Introductory Electronics	Available as a P-course.
PHYS 2650 Classical Mechanics 1	Available as a P-course.
GEOL 4830 Remote Sensing and GIS (Honours program)	Available as a B-course.

**Modification to B.Sc. Geological Sciences Geophysics Program Chart**  
**Current Program Chart: B.Sc. Geological Sciences Geophysics**

**8.5 B.Sc. Geological Sciences (Geophysics)<sup>5,8</sup>**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS GEOPHYSICS 126 CREDIT HOURS</b>			
GEOL 1340(B) <sup>7</sup> or GEOL 1440(B) and one of: GEOL 1350, GEOL 1360, or GEOL 1370(B)] PHYS 1050(B) [or PHYS 1020(B+)], PHYS 1070(B), MATH 1510 <sup>1</sup> (B) and MATH 1710 <sup>1</sup> (B) [or MATH 1500(B) and MATH 1700(B) <sup>1</sup> ]  Plus 6 credit hours from the Faculty of Arts  COMP 1010 must be completed in Year 1 or Year 2.  It is recommended that students complete the W course in University 1 or Year 2.	GEOL 2060, GEOL 2530, GEOL 2540 PHYS 2390, PHYS 2490, MATH 2100 <sup>2,6</sup> , MATH 2110 <sup>2,6</sup> Plus 9 credit hours of electives, which could include COMP 1010 (as it must be taken by the end of Year 3)	GEOL 2440, GEOL 2520, GEOL 3130, GEOL 3740, GEOL 3810, GEOL 4250, GEOL 4320, GEOL 4330, GEOL 4670, GEOL 4740 <sup>3</sup> , GEOL 4810, GEOL 4830, GEOL 4870 PHYS 2600, PHYS 2610, PHYS 2650, MATH 3100 <sup>4</sup> , MATH 3110 <sup>4,6</sup>  Plus 3 credit hours of electives as approved by the department.	
30 Credit Hours	32 Credit Hours	64 Credit Hours for Year 3 and 4 <sup>3</sup>	

**MAJOR GEOPHYSICS 120 CREDIT HOURS**

GEOL 1340(C+) <sup>7</sup> or GEOL 1440(C+) and one of: GEOL 1350, GEOL 1360, or GEOL 1370(C+)] PHYS 1050(C+) [or PHYS 1020(B)], PHYS 1070(C), MATH 1510 <sup>1</sup> (C+) and MATH 1710 <sup>1</sup> (C) [or MATH 1500(C+) and MATH 1700(C) <sup>1</sup> ]  6 credit hours from the Faculty of Arts  It is recommended that students complete the W course in University 1 or Year 2.	GEOL 2060, GEOL 2530, GEOL 2540 PHYS 2390, PHYS 2490, MATH 2100 <sup>2,6</sup> , MATH 2110 <sup>2,6</sup>	GEOL 2440, GEOL 2520, GEOL 3130, GEOL 3740, GEOL 3810, GEOL 4810, GEOL 4920 PHYS 2600, PHYS 2610, MATH 3100 <sup>4</sup> , MATH 3110 <sup>4,6</sup> Plus 9 credit hours from: GEOL 4250, GEOL 4260, GEOL 4320, GEOL 4330, GEOL 4740 <sup>3</sup> , GEOL 4830 COMP 1010, which must be taken by the end of Year 3	
---	--	---	--

**NOTES:**

<sup>1</sup>MATH 1690 may be taken in place of MATH 1500 or MATH 1510 and MATH 1700 or MATH 1710.

<sup>2</sup>MATH 2720 and MATH 2730 may be taken in place of MATH 2100 and MATH 2110. Students should note that MATH 1300 is a prerequisite to MATH 2720 and a corequisite to MATH 2730.

<sup>3</sup>GEOL 4740 will normally be taken immediately following the spring examinations on or about May 1 and will continue for approximately three weeks. Registration will show as Summer Session.

<sup>4</sup>MATH 3810 may be taken in place of MATH 3100, and MATH 3700 may be taken in place of MATH 3110.

<sup>5</sup>The courses required in this program satisfy the university mathematics requirement.

<sup>6</sup>For the purposes of students in the Geophysics Honours and Major programs, this course will count as four credit hours.

<sup>7</sup>GEOL 1340 (or the former 007.123) is recommended for students wishing to take any Geological Sciences program. The course contains a lab component which will ease the student's transition to advanced level courses.

<sup>8</sup>**IMPORTANT:** The Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program. (Letters in brackets indicate the minimum prerequisite standing required for further study).

**NOTES:**

□To fulfil prerequisite requirements, a grade of "C" must be achieved in any course stipulated as prerequisite to a further course in Geological Sciences.

□All courses are not offered every year. The course schedule for the current academic session is available from the online calendar at [www.umanitoba.ca/calendar](http://www.umanitoba.ca/calendar)

▣ Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the department general office.

**Proposed Program Chart: B.Sc. Geological Sciences Geophysics**

**8.5 B.Sc. Geological Sciences (Geophysics)<sup>45,78</sup>**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS GEOPHYSICS 121 426 CREDIT HOURS</b>			
GEOL 1340(B) <sup>67</sup> or GEOL 1440(B) and one of: GEOL 1350, GEOL 1360, or GEOL 1370(B) PHYS 1050(B) [or PHYS 1020(B+)], PHYS 1070(B), MATH 1210 <sup>1</sup> (B), MATH 1510 <sup>1</sup> (B), and MATH 1710 <sup>1</sup> (B) [or MATH 1500(B) and MATH 1700(B) <sup>1</sup> ]  Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course  COMP 1010 must be completed in Year 1 or Year 2.  It is recommended that students complete the W course in University 1 or Year 2.	GEOL 2060, <u>GEOL 2440, GEOL 2520, GEOL 2530, GEOL 2540</u> PHYS 2390, PHYS 2490, MATH 2100 <sup>2,56</sup> , MATH 2110 <sup>2,56</sup> , MATH 2AB0 <sup>2,56</sup> , MATH 2AC0 <sup>2,56</sup> , COMP 1010 Plus 9 credit hours of electives, which could include COMP 1010 (as it must be taken by the end of Year 3)	GEOL 2440, GEOL 2520, GEOL 3130, GEOL 3740, GEOL 3810, GEOL 4250, GEOL 4320, GEOL 4330, GEOL 4670, GEOL 4740 <sup>4</sup> , GEOL 4810, GEOL 4830, GEOL 4870 CHEM 1300, PHYS 2600, MATH 2120 <sup>35</sup> , PHYS 2610, PHYS 2650, MATH 3100 <sup>4</sup> , MATH 3110 <sup>4,6</sup> 9 credit hours of Geological Sciences Geophysics Electives from List A, 6 credit hours of Geological Sciences Geophysics Electives from List P and 9 credit hours of Geological Sciences Geophysics Electives from List B.	Plus 3 credit hours of electives as approved by the department.
30 Credit Hours	32 30 Credit Hours	61 64 Credit Hours for Year 3 and 4 <sup>3</sup>	

**MAJOR GEOPHYSICS 121 420 CREDIT HOURS**

GEOL 1340(C+) <sup>67</sup> or GEOL 1440(C+) and one of: GEOL 1350, GEOL 1360, or GEOL 1370(C+) PHYS 1050(C+) [or PHYS 1020(B)], PHYS 1070(C), MATH 1210 <sup>1</sup> , MATH 1510 <sup>1</sup> (C+), and MATH 1710 <sup>1</sup> (C) [or MATH 1500(C+) and MATH 1700(C) <sup>1</sup> ]  6 credit hours from the Faculty of Arts, which should include the required "W" course  It is recommended that students complete the W course in University 1 or Year 2.	GEOL 2060, <u>GEOL 2440, GEOL 2520, GEOL 2530, GEOL 2540</u> PHYS 2390, PHYS 2490, MATH 2100 <sup>2,56</sup> , MATH 2110 <sup>2,56</sup> , MATH 2AB0 <sup>2,56</sup> , MATH 2AC0 <sup>2,56</sup> , COMP 1010	GEOL 2440, GEOL 2520, GEOL 3130, GEOL 3740, GEOL 3810, GEOL 4670, GEOL 4810, GEOL 4920 CHEM 1300, PHYS 2600, MATH 2120 <sup>35</sup> , PHYS 2610, MATH 3100 <sup>4</sup> , MATH 3110 <sup>4,6</sup> Plus 9 credit hours from: GEOL 4250, GEOL 4260, GEOL 4320, GEOL 4330, GEOL 4740 <sup>4</sup> , GEOL 4830 COMP 1010, which must be taken by the end of Year 3 6 credit hours of Geological Sciences Geophysics Electives from List A, 3 credit hours of Geological Sciences Geophysics Electives from List P and 6 credit hours of Geological Sciences Geophysics Electives from List B.
---	---	---

**NOTES:**

<sup>1</sup>MATH 1690 may be taken in place of MATH 1500 or MATH 1510 and MATH 1700 or MATH 1710 and MATH 1300 may be taken in place of MATH 1210.

<sup>2</sup>MATH 2720 and MATH 2730 may be taken in place of MATH 2100 and MATH 2110. MATH 2AB0 and MATH 2AC0. Students should note that MATH 1300 is a prerequisite to MATH 2720 and a corequisite to MATH 2730.

<sup>3</sup>MATH 2600 may be taken in place of MATH 2120

<sup>4</sup>GEOL 4740 will normally be taken immediately following the spring examinations on or about May 1 and will continue for approximately three weeks. Registration will show as Summer Term.

<sup>4</sup>MATH 3810 may be taken in place of MATH 3100, and MATH 3700 may be taken in place of MATH 3110.

<sup>5,55</sup>The courses required in this program satisfy the university mathematics requirement.

<sup>56</sup>For the purposes of students in the Geophysics Honours and Major programs, this course will count as four credit hours.

<sup>67</sup>GEOL 1340 (or the former 007.123) is recommended for students wishing to take any Geological Sciences program. The course contains a lab component which will ease the student's transition to advanced level courses.

<sup>78</sup>**IMPORTANT:** The Honours and Major programs need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program. (Letters in brackets indicate the minimum prerequisite standing required for further study).

**NOTES:**

▣ To fulfil prerequisite requirements, a grade of "C" must be achieved in any course stipulated as prerequisite to a further course in Geological Sciences.

▣ All courses are not offered every year. The course schedule for the current academic session is available from the online calendar at [www.umanitoba.ca/calendar](http://www.umanitoba.ca/calendar)

▣ Students registering in certain courses may be required to pay a portion of the costs associated with field trips. For details, contact the department general office.

Other Note 1: Geological Sciences - Geophysics Electives Lists A and B

**List A Electives:** Honours students are required to complete a minimum of 9 credit hours; Major students must complete a minimum of 6 credit hours from the following courses:

GEOL 4250	Theory and Application of Geophysical Inversion Methods (3)L
GEOL 4320	Physics of the Earth: Seismology and Heat Flow (3)
GEOL 4330	Physics of the Earth: Geomagnetism and Gravity (3)

**List B Electives:** Honours students are required to complete a minimum of 9 credit hours; Major students must complete a minimum of 6 credit hours from the following courses:

GEOL 2390	Environmental Geology (3)
GEOL 2770	Principles of Inorganic Geochemistry (3)L
GEOL 3110	Petrogenesis of Igneous Rocks (3)L
GEOL 3290	Metamorphic Structure and Tectonics (3)L
GEOL 3420	Engineering Geology (3)
GEOL 3490	Glacial Geology and Geomorphology (3)L
GEOL 3750	Geology and Geophysics of the Planets (3)L
GEOL 3900	Sedimentology (3)L
GEOL 3910	Introduction to Field Mapping (3)
GEOL 4270	Advanced Studies in Earth Sciences (3)
GEOL 4300	Mineral Deposits (3)L
GEOL 4370	Global Change (3)
GEOL 4520	Petroleum Geology (3)L
GEOL 4830	Remote Sensing and Geological Information Systems (3)L
GEOL 4890	Basin Analysis (3)L
GEOL 4910	Advanced Field Mapping (3)

Any List A or P not already taken, or any advanced level Geological Sciences, Physics or Mathematics course(s) approved by department.

**List P Electives:** Honours students are required to complete a minimum of 6 credit hours; Major students must complete a minimum of 3 credit hours from the following courses:

CHEM 2290	Chemical Energetics and Dynamics: Macroscopic Descriptions (3)L
MECH 2260	Introduction to Fluid Mechanics (3)L
PHYS 2610	Circuit Theory and Introductory Electronics (3)L
PHYS 2650	Classical Mechanics 1 (3)
PHYS 3630	Electro - and Magnetostatic Theory (3)
PHYS 3670	Classical Thermodynamics (3)

Or alternate physical Science course(s) approved by department.

The changes are:

1. The number of credit hours in the Geophysics Honours program is to be reduced from 126 to 121 in order to bring the program requirements as close as possible into line with the Geology Honours and Major program and with the Geophysics Major program.
2. The introduction of an elective structure similar to that of the Geology programs. The elective courses are defined in 3 categories A-courses (Geophysics electives), P-courses (Physical Science electives) and B-courses (Geoscience and Science electives). This will allow flexibility to the program while allowing students to satisfy the national and provincial academic requirements for professional registration within their degrees.
3. The introduction of CHEM 1300 for professional registration
4. Change in core mathematics requirements MATH 2120 replacing MATH 3110, with MATH 2120 identified as more relevant to the profession.
5. The movement of several mathematics and physics courses from core courses into the P-category (PHYS 2610 and PHYS 2650) or the B-category (MATH 3810) to enhance the flexibility of the programs and to accommodate the change from 126 to 121 credit hours.
6. The inclusion of MATH 1210 and replacement of MATH 2100 and 2110 with MATH 2AB0 and MATH 2AC0 to accommodate changes made by the Department of Mathematics
7. The movement of GEOL 4830 Remote Sensing and GIS from the Honours Geophysics core into the B-category to reflect the fact that the department is unable to offer this course in the near future and it is presently optimally substituted with GEOG 2250.

## Faculty of Engineering

### Biosystems Engineering

Courses to be deleted:

BIOE 4540	Controlled Environment Production Systems	-4
-----------	---	----

Courses to be introduced:

BIOE 4LBO	Design of Light-Frame Building Systems	+4
-----------	--	----

Light-frame buildings as a structural and environmental system; structural loads in building systems; energy (heat), moisture and air contaminants in building systems; built-environment for building occupants. Hands-on labs of constructing small-scale structures for students to gain an understanding of building construction techniques. Prerequisite: BIOE 2110 (C), BIOE 3590 (C). Offered in 2007-2008 and alternate years thereafter.

BIOE 4ISO	Imaging and Spectroscopy for Biosystems	+4
-----------	---	----

The purpose of this course is to familiarize senior Biosystems Engineering students with the fundamentals of imaging and spectroscopy for biosystems. Techniques of image acquisition, storage, processing, and pattern recognition will be taught. Various spectroscopy techniques and their applicability to biological materials will be discussed. Analysis of data using statistical, artificial neural networks and chemometric methods will be covered. Pre-requisite: BIOE 3270 (C). Will be offered in 2007-2008 and alternate years thereafter.

**NET CHANGE IN CREDIT HOURS: +4 HOURS**

### Electrical and Computer Engineering

Course proposed for deletion:

ECE 2260	Circuits and Transmission Lines.	-4
----------	----------------------------------	----

Course proposed for introduction:

ECE 2XYO	Electric Circuits	+4
----------	-------------------	----

(Lab required) The application of circuit concepts: network theorems and formal methods, steady state analysis, frequency and transient response, application of the Laplace transform in the analysis of linear time-invariant networks. Prerequisite: ENG 1450 (or 130.11) Corequisite: MATH 2ACO or (MATH 2100 (or 136.210) and MATH 2110 (or 136.211)).

**NET CHANGE IN CREDIT HOURS: +0 HOURS**

## Faculty of Human Ecology

### Textile Sciences

Course to be modified:

TXSC 1610	Textiles, Products and Consumers	3
-----------	----------------------------------	---



<b>Statistical Requirement . . . .</b>		<b>Credit Hours</b>
STAT 1000 Basic Statistical Analysis 1 <sup>c</sup>		3
<b>Faculty of Human Ecology Core Courses; any2 of:<sup>d</sup></b>		6-9
HMEC 2030W	Human Ecology: Perspectives & Communication	
HMEC 2050	Introduction to Research in Human Ecology	
HMEC 3100	Communication for Professional Practice	
<b>Family Social Sciences Requirements:</b>		12
FMLY 2070	Family Financial Management <sup>e</sup>	
FMLY 2350	Multicultural Family Issues <sup>f</sup>	
FMLY 3780	Introduction to Development of Programs for Children & Families <sup>g</sup>	
FMLY 3790	Introduction to Evaluation of Programs for Children & Families <sup>h</sup>	
<b>And a minimum of 2 of<sup>i</sup></b>		6
FMLY 2600	Foundations of Childhood Developmental Health	
FMLY 2800	Family Violence	
FMLY 2900	Families, Housing & Community: A Development Perspective	
HMEC or SWRK or REC 2650	The Social Aspects of Aging	
<b>Family Social Sciences Option</b>		<b>15</b>
<ul style="list-style-type: none"> <li>• As with all undergraduates in the FSS regular program, ADP students will be required to choose at least one option to specialize in and meet its requirements at the second year level and beyond. (For a complete description of these options, please refer to the Undergraduate Calendar).</li> <li>• These 15 credit hours may include courses external to the Faculty of Human Ecology that are required to complete an option</li> </ul>		
Family Social Sciences Electives		15-18 <sup>j</sup>

- ADP students will be encouraged to specialize in 2 options simultaneously because a) a majority of FSS undergraduates currently choose to do so, and b) dual specialization both strengthens and broadens students' 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 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 program

**Total credit hours 60**

Footnotes:

<sup>a</sup>The same entrance requirements will be applied to ADP students in order to maintain current Faculty of Human Ecology standards.

<sup>b</sup>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.

<sup>c</sup>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 advance standing; if successful, students will be required to add 3 credits to their program from courses selected within the Department of Family Social Sciences.

<sup>d</sup>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 3 courses if they feel it would benefit them.

<sup>e</sup><sup>f</sup><sup>g</sup><sup>h</sup>This set of courses is currently required of all FSS undergraduate students and is being retained in the ADP program because it represents a basic skill and knowledge set across specialization options (e.g., cultural competence). Please refer to the Undergraduate Calendar for descriptions of current regular program requirements across all five FSS options.

<sup>i</sup>Students will be asked to take a minimum of any 2 of the introductory levels courses across options in an effort to assist them with selecting an option as well as to encourage them to specialize in more than one option. These courses may be used to fulfill one or more options in Family Social Sciences.

<sup>j</sup>Each FSS option is a total of 18 credit hours; since ADP students will have already taken at least one 2000 level course (3 credit hours) required by their chosen Option as part of their program requirements, the remainder of their Option requirements totals 5 credit hours.

Human Nutritional Sciences

Courses to be deleted:

HNSC 4330	Practicum in Foods and Nutrition	-6
HNSC 4360	Foods Option Practicum	-6

Course to be introduced:

HNSC 4XXX	Food Industry Option Practicum	+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. Restricted to students registered in the Human Nutritional Sciences Food Industry Option

and entering their final year of studies. Pre-requisites: HNSC 3260, HNSC 3330, FOOD 4150 and one of GMGT 2030, GMGT 2070 and GMGT 2080. Application to the department required.

HNSC 4XXX Nutrition Option Practicum +6  
Practical applications of nutrition principles in a variety of public service and research applications.  
Prerequisites: two of the following courses: HNSC 3300, HNSC 3310, HNSC 3320, and HNSC 3330.  
Application to the department required. Limited enrolment.

Courses to be modified:

HNSC 4310 Nutrition and the Elderly 3  
(Formerly 030.431) The role of nutrition in health promotion and disease prevention during aging.  
Prerequisites: HNSC 3310 (or 030.331) and HNSC 3320 (or 030.332). Prerequisite or corequisite:  
HNSC 3300 (or 030.330). Offered in alternate years, opposite HNSC 4340 (or 030.434).

HNSC 4340 Maternal and Child Nutrition 3  
(Formerly 030.434) The role of nutrition in normal human development from conception through  
childhood. Prerequisites: HNSC 3310 (or 030.331) and HNSC 3320 (or 030.332). Prerequisite or  
corequisite: HNSC 3300 (or 030.330). Offered in alternate years, opposite HNSC 4310 (or 030.431).

**NET CHANGE IN CREDIT HOURS: -0 HOURS**

The department is proposing advanced placement for Red River College Culinary Program students. Such students would be given 24 hours of transfer credit to the Faculty of Human Ecology and 6 hours of transfer credits to other Faculties. These would include:

A. 24 hours of transfer credits from the Faculty of Human Ecology:

HNSC 1210 Nutrition for Health and Changing Lifestyles (3)  
FINSC 2160 Food Preparation and Preservation (3)  
HNSC 3XXX Management for Food and Nutrition Professionals (3)  
HNSC 4630 Food Option Practicum (6)  
Unallocated 3 credit hours for HNSC courses at the 200 level  
HMEC 3100 Communications for Professional Practice (3)  
Unallocated 3 credit hours in Social Sciences

B. 6 hours of transfer credits from other Faculties:

3 credit hours of a business course (as approved by I.H.. Asper School of Business)  
3 credit hours of a computer science course (as approved by Faculty of Science) for a total of 30 credit hours.

In addition, there will be a lab exemption for HNSC 4140 Quantity Food Production and Management (final mark will be based on tests and exam).

The Department is proposing a Food Industry Option. This would be as follows:

Food Industry Option (FIO) Course Requirements

**Core Courses Credit Hours**

U1 HNSC 1200	Food: Facts and Fallacies	3
U1 HNSC 1210	Nutrition for Health & Changing Lifestyles	3
U1 CHEM 1300	Structure & Modeling in Chemistry	3
U1 CHEM 1320	Introduction to Organic Chemistry	3
U1 ZOOL 1320	Anatomy of Human Body <b>OR</b>	3
U1 BIOL 1020	Biology 1	3
U1 ZOOL 1330	Physiology of the Human Body	3
U1 PSYC 1200	Introduction to Psychology	6
HNSC 2130	Nutrition Through the Lifecycle	3
HNSC 2140	Basic Principles of Human Nutrition	3
HNSC 2150	Composition, Functional & Nutritional Properties of Food	3
HNSC 2160	Food Preparation and Preservation	3
CHEM 2770	Elements of Biochemistry 1	3
CHEM 2780	Elements of Biochemistry II	3
HMEC 2030	Human Ecology: Perspectives and Communication	3
STAT 1000	Basic Statistical Analysis I	3
STAT 2000	Basic Statistical Analysis II	3
U1 MKT 2210	Fundamentals of Marketing	3
U1 GMGT 2070	Introduction to Organizational Behaviour	3
HNSC 3300	Vitamins and Minerals in Human Health <b>OR</b>	3
	HNSC 3310 Macronutrients & Human Health	6
HNSC 4XXX	Food Industry Option Practicum	3
HNSC 3330	Ingredient Technology for Designed Foods	3
HNSC 4160	Seminar in Foods and Nutrition	3
HMEC 2050	Introduction to Research in Human Ecology	3
HMEC 3100	Communication for Professional Practice	3
FOOD 4150	Food Microbiology 1	3
HNSC 3260	Food Quality Evaluation	3
HNSC 4280	Food Product Development	3
FOOD 4310	Introduction to HACCP	3
	<b>Core total 90</b>	
<b>Quality Assurance</b>		<b>15</b>
HNSC 4270	Sensory Evaluation of Food	3
STAT 3170	Statistical Quality Control	3
FOOD 4280	Food Microbiology 2	3
AGRI 2190	Toxicology Principles	1.5
ANSC 2530	Nutritional Toxicology	1.5
FOOD 4500	Food Safety and Regulations	3
<b>Food Product Development</b>		<b>15</b>
HNSC 4270	Sensory Evaluation of Food	3
HNSC 4290	Food, Nutrition and Health Policies	3
FOOD 4500	Food Safety and Regulations	3
FOOD 4520	The Packaging of Food	3
HNSC 4540	Functional Foods and Nutraceuticals	3
<b>Food Industry Management</b>		<b>15</b>
U1 ACC 1100	Introductory Financial Accounting	3
MKT 3220	Marketing Research	3

HRIR 2440	Human Resource Management	3
UI GMGT 2080	Introduction to Management & Organization Theory	3
GMGT 3010	Management Decision-Making	3

**ELECTIVES** 15

Suggested electives related to Quality Assurance and Food Product Development

HNSC 3350	Culture and Food Patterns
FOOD 4160	Food Analysis I
STAT 3130	Statistical Analysis of Designed Experiments
STAT 3120	Topics in Regression Analysis
CHEM 2470	Introduction to Analytical Chemistry
U1 MBIO 1220	Essentials of Microbiology
MBIO 2100	Microbiology A
MBIO 3010	Mechanisms of Microbial Disease

Suggested electives related to Food Industry Management

U1 ECON 1200	Principles of Economics
HNSC 3342	Management for Food and Nutrition Professionals
ACC 1110	Introductory Managerial Accounting
ENTR 3100	Small Business Management
MKT 3230	Consumer Behaviour
MKT 3250	Marketing Strategy
MKT 3300	International Marketing
PHIL 2830	Business Ethics
GMGT 2120	Business/Government Relations
GMGT 3080	Issues in Technological Change
INTB 2200	International Management

**Total: 120**

**I.H. Asper School of Business Faculty of Management**

Courses to be deleted:

GMGT 3050	Technological Entrepreneurship	-3
-----------	--------------------------------	----

Courses to be introduced:

ENTR 3AAA	Technological Entrepreneurship	+3
-----------	--------------------------------	----

An overview of the inter-relationship between technology and entrepreneurship. An appreciation of the role of technical entrepreneurship in the economy, how a technology strategy is developed, implemented and defended as well as the societal implications of technological entrepreneurship. Prerequisite: MKT2210

ENTR 3AAB	Selected Topics in Small Business/Entrepreneurship	+3
-----------	--	----

A study of selected areas of recent development related to small business/entrepreneurship. Topics may include innovation and creativity, venture financing, opportunity identification and recognition, franchising and entry strategies of new business. Prerequisite: MKT 2210 (D) and [GMGT 2030 (D) or GMGT 2080 (D)].



This course will concentrate on the structure and function of the human body's various tissues, organs and systems with particular emphasis upon basic histology, function and gross anatomy. This course will help prepare students who are interested in pursuing careers in Athletic Therapy and Kinesiology. Prerequisites: PHED 2320 or 057.232 or KIN 2320 (C).

**KIN 4XXX**                      **Advanced Fitness Appraisal and Lifestyle Counselling**                      **+3**  
Advanced theoretical knowledge and experiential learning related to physical activity, fitness and lifestyle assessment, counselling and exercise prescription for apparently healthy and clinical populations. Prepares students for Canadian Society of Exercise Physiology "Certified Exercise Physiologist" (CSEP-CEP) exams. Prerequisites: KIN 3XXX (or PHED 4460) and KIN 3XXX Resistance Training and Conditioning or PHED 3XXX Resistance Training and Conditioning (or PHED 2620) and PHED 3090 or KIN 3090 (C). May not hold for credit with PHED 4350 PFLC Apprenticeship.

**PERS 2XXX**                      **Program Planning Principles**                      **+3**  
While contexts in practice may vary, program planning is an essential competency for all professionals in recreation, kinesiology and physical education. To ensure the requisite skill set is acquired, the emphasis in this course will be on the principles and processes in effective program planning, implementation, and evaluation. Prerequisites: PERS 1200 or PHED 1200 or (057.120) (C) or PERS 1500 or PHED 1500 or (057.150) (C) and PERS 1400 or REC 1400 or (123.140) (C). May not hold for credit with PHED 3080 (057.308) or REC 2530 (123.253).

**PERS 2XXX**                      **Introduction to Professional Practice**                      **+3**  
An introduction to professional values and behaviours in the broad fields related to kinesiology, physical education and recreation management including accountability, commitment, ethical decision making, interpersonal communication, respect for diversity and service. Prerequisites: PERS 1200 or PHED 1200 (057.120) (C) or PERS 1500 or PHED 1500 (057.150) (C) and PERS 1400 or REC 1400 (123.140) (C).

**REC 2XXX**                      **Management and Marketing of Leisure Services**                      **+3**  
Basic management and marketing principles and practices and their applicability to delivery of leisure services. Topics include financial resources, budgeting, people-centered management, and marketing. Prerequisites: PERS 1400 or REC 1400 (123.140) (C). May not hold for credit with REC 3860 (123.386) or REC 3870 (123.387).

**KIN 4XXX**                      **Advanced Exercise Physiology**                      **+3**  
An advanced examination of the physiological factors that affect human performance during physical activity. This will include exposure to related research and the development of techniques for its critical assessment. Prerequisites: KIN 3XXX or PHED 3430 (057.343) (C). May not hold for credit with PHED 4410 (057.441).

**KIN 2XXX**                      **Athletic Therapy Skills**                      **+3**  
This course will focus upon the theoretical study and practical application of massage therapy (basic and advanced) and sport specific taping, splinting and bracing techniques. The intent of this course is to help prepare students for their future in the profession of Athletic Therapy. May not hold for credit with PHED 3180 (057.318) or PHED 2020 (057.202 or 057.323).

**PHED 2XXX**                      **Human Movement Principles**                      **+3**  
An introduction to the principles of inclusive physical education through the integration of theory, practice and guided reflection pertaining to the development of fundamental movement skills and strategies applied to educational games, gymnastics and dance. May not hold for credit with PHED 1420 (057.142) or 057.141. Requires a paid facility use pass.





- KIN 4XXX                    Advanced Pathology and Sport Medicine                    +3  
 Basic principles of pathology and clinical manifestations of cardiac, respiratory and neurologic disorders. Preventative measures, assessments and treatment methods employed in care of patients with these disorders will also be examined. Prerequisites: KIN 2XXX (Advanced Human Anatomy) (C). May not be held for credit with PHED 4050 (057.405).
- KIN 4XXX                    Advanced Biomechanics                    +3  
 A biomechanical analysis of the skills and techniques of the major sports, games and exercises. Prerequisite: KIN 2XXX or PHED 2XXX or PHED 2310 (057.231) or equivalent (C). May not be held for credit with PHED 4360 (057.436).
- KIN 4XXX                    Physical Activity and Aging                    +3  
 The study of the aging processes and the effects of exercise and lifestyle factors on the health and fitness of the aging adult. Prerequisite: KIN 3090 or PHED 3090 (057.309) (C), or permission of the instructor. May not be held for credit with PHED 4500 (057.450).
- REC 4XXX                    Leisure and Aging                    +3  
 The nature of the aging process and its impact on leisure behaviour. The factors influencing leisure among older adults, policy issues and program and service methods and implications will be examined. Prerequisite: REC 3060 (123.306) (C) or PERS 3XXX Inclusive Physical Activity and Leisure (C). May not be held for credit with REC 4130 (123.413).
- REC 4XXX                    Advanced Planning of Recreation Areas and Facilities                    +3  
 Advanced planning considerations with opportunity for application of planning process theories. Prerequisite: REC 3850 (123.385) (C). May not be held for credit with REC 4340 (123.434).
- PERS 1200                    Physical Activity, Health and Wellness                    +3  
 Examination of the benefits of physical activity for health and wellness, the present and recommended levels of physical activity, the factors influencing participation in physical activity, and individual, organizational and national interventions for increasing physical activity. May not be held for credit with PHED 1200 (057.120).
- KIN 2320                    Human Anatomy                    +3  
 Structure of skeletal, articular and muscular systems of the human body. Prerequisite: BIOL 1020 and BIOL 1030 (D) or the former 071.125 (D) or equivalent. May not be held for credit with PHED 2320 (057.232), REHB 1480 (068.148), REHB 1490 (068.149), or REHB 1500 (068.150).
- KIN 2610                    Health and Physical Aspects of Aging                    +3  
 An introduction to health, well-being and aging. Emphasis on health as multidimensional including physical, social and mental health. Integration of theory and research in examining selected issues related to health and physical aspects of aging. This is an Option in Aging course and may not be held for credit with NURS 2610 (049.261) or PHED 2610 (057.261).
- KIN 3200                    Basic Trauma and Emergency Support                    +3  
 Assessment and management of medical emergencies common to sports. Topics will include on-field primary and secondary surveys, airway management, assessment and management of head, spinal, chest, abdominal and extremity trauma. Open to Athletic Therapy students or with permission of the instructor. May not hold for credit with PHED 3200 (057.320) or with the former 057.319.
- KIN 3090                    Principles of Fitness Training                    +3

Theoretical concepts of designing programs employing the principles of overload and adaptation for all components of fitness for all age groups. Prerequisite: PHED 3430 (057.343) (C) or KIN 3XXX (C). May not hold with PHED 3090 (057.309).

KIN 3300                      Functional Assessment and Restoration                      +6  
Assessment of acute and chronic musculo-skeletal injuries and rehabilitation techniques to ensure full restoration of function. Prerequisites: PHED 2320 (057.232) or KIN 2320 (C). May not hold with PHED 3300 (057.330).

KIN 3450                      Motor Learning                      +3  
Principles underlying human motor performance and motor skill learning. May not hold for credit with PHED 3450 (057.345).

KIN 3830                      Wilderness Leadership                      +3  
Theoretical aspects of trip planning, administration, skills, and leadership development. May not hold for credit with PHED 3830 (057.383) or REC 3830.

REC 3830                      Wilderness Leadership                      +3  
Theoretical aspects of trip planning, administration, skills, and leadership development. May not hold for credit with PHED 3830 (057.383) or KIN 3830.

KIN 4060                      Drugs and Ergogenic Aids in Sport                      +3  
A multidisciplinary examination of drugs, hormones, dietary supplements and methods used by athletes in attempting to enhance athletic performance. Ethical concerns and mechanisms of action will be examined for steroids, stimulants, masking agents, blood doping, and hormonal and dietary supplements among others. ZOO 1330 (022.133) or ZOO 2530 (022.253) and ZOO 2540 (022.254) are strongly recommended. May not hold for credit with PHED 4060 (057.406).

KIN 4300                      Health and Wellness Practices in Athletic Therapy                      +3  
Overview of health and wellness practices in Athletic Therapy with the focus on issues relevant to the development and management of an Athletic Therapy business/clinical practice. May not hold for credit with PHED 4300 (057.430) or REHB 3460 (068.346). Open to Athletic Therapy students only or with departmental approval.

KIN 4460                      Fitness Appraisal and Lifestyle Counselling                      +3  
Theoretical knowledge and practical training related to physical activity, fitness and lifestyle appraisal and counselling. Prerequisite: PHED 1200 (057.120) or PERS 1200 (C). Pre- or Co-requisites: PHED 3430 (057.3430) or KIN/PHED 3XXX (Exercise Physiology). May not be held for credit with PHED 4460 (057.446) or 057.443, 057.444 and 057.445. Note: Prepares students to certify as "Certified Personal Trainer (CPT)" (Canadian Society for Exercise Physiology). B.Kin. students who wish to prepare for Certified Exercise Physiologist (CEP) Certification (Canadian Society for Exercise Physiology) should consult the Undergraduate Program Coordinator.

PERS 4XXX                      Directed Studies                      +3  
Completion of an independent study, research project or fieldwork experience, including a major written submission, approved by the Undergraduate Program Coordinator and under the supervision of a faculty member.

PERS 1XXX                      Introduction to Leisure Travel                      +3

To provide an introduction to tourist behaviour and the tourism system through an overview of: why people travel; the components of tourism; the scope and organization of tourism in Canada; and the interrelationship between recreation and tourism. May not be held for credit with REC 1200 (123.120).

PERS 1400 Concepts of Recreation and Leisure +3  
 The nature and scope of recreation and leisure, the past influences and implications for the future. An overview of the types and roles of various components of the leisure delivery system. May not be held for credit with REC 1400 (123.140).

PERS 4200 Special Topics +3  
 A theoretical and practical examination of selected topics in the fields of recreation, leisure and kinesiology. Topics will vary depending on the faculty expertise and student need. Prerequisites: REC 1400 (123.140) (C) or PERS 1400 (C) or PHED 1500 (057.150) (C) or PHED 1200 (057.120) (C) or PERS 1200 (C) AND departmental approval.

KIN 4620 Fieldwork Experience +1

Courses to be deleted:

PHED 1420	Principles of Human Movement Education	-2
PHED 1640	Group Fitness Activities	-1
PHED 2020	Basic Massage Techniques	-1
PHED 2450	Folk and Social Dance	-1
PHED 2630	Aquafitness	-1
PHED 2640	Exercise to Music	-1
PHED 2650	Early and Middle Years Physical Education	-2
PHED 3010	Directed Activity Study	-1
PHED 3110	Apparatus Gymnastics	-1
PHED 3120	Recreational Gymnastics	-1
PHED 3130	Physical Activity Practicum	-1
PHED 3140	Creative Dance	-1
PHED 3180	Taping and Splinting	-1
PHED 3410	Movement Principles and the Expressive Arts	-3
PHED 3700	Modern Gymnastics (Rythmics)	-1
PHED 4410	Exercise Physiology 2	-3
PHED 4640	Exercise for Older Adults	-1
REC 2530	Recreation Program Planning Principles	-3
REC 3010	Directed Activity Study	-1
REC 3870	Human Resource Development in Leisure Services	-3
REC 4100	Major Essay Readings or Creative Work	-3
REC 4370	Directed Research Project	-3
PHED 2910	Athletic Therapy Practicum	-8
PHED 2310	Kinesiology	-3
PHED 2340	Philosophy of Physical Activity	-3
PHED 3060	Principles of Athletic Therapy	-3
PHED 3070	Rise of Modern Sport and Physical Education	-3
PHED 3430	Exercise Physiology 1	-3
PHED 4050	Pathology and Clinical Manifestations 2 Cardiac Respiratory and Neurologic Disorders	-3
PHED 4360	Biomechanics of Sport and Exercise	-3
PHED 4500	Aging Adult Development, Health and Fitness	-3



An investigation of physical and health education from a critical theorist perspective, that is, one that investigates the different relations of power and privilege (based on ability, gender, race, socio-economic class, sexuality) experienced within education and physical activity contexts. The physical education experiences of young people from diverse backgrounds will be analyzed from a holistic perspective. Prerequisite: PHED 2XXX Developmental Games and Activities, or PHED 2650 (057.265) (C). May not hold for credit with PHED 3100 (057.310).

REC 3XXX                    Advanced Program Planning and Leadership                    +3  
Consideration and application of program planning principles as they relate to specialized contexts and diverse populations. Foundations of leadership and interpersonal communication for effective and successful program implementation. Prerequisite: PERS 2XXX Program Planning Principles (C). Also requires a valid recreation facility use pass. May not hold for credit with REC 2540 (123.254) and REC 3870 (123.387).

PHED 3XXX                    Active Health and Human Potential                    +3  
An examination of lifestyle behaviours which can enable or constrain human wellness and potential. By integrating theory with practice, current wellness models and motivational theories will guide strategies for wellness planning personal and professional practice. Introduces students to Manitoba Curriculum Student Learning Outcomes in "Personal and Social Management", and "Healthy Lifestyle Practices", as well as curricular connections for the teaching of "active health". May not be held for credit with PHED 3440 (057.344).

KIN 3XXX                    Coaching Theory and Practice                    +3  
An introduction to the theoretical and practical aspects of coaching at the community and school level, including the examination of topics of philosophical, psychological, ethical and technical significance. The course prepares students for certification from the National Coaching Certification Program (Competition A). May not hold for credit with PHED 3050 (057.305) or PHED 3XXX Coaching Theory and Practice.

PHED 3XXX                    Coaching Theory and Practice                    +3  
An introduction to the theoretical and practical aspects of coaching at the community and school level, including the examination of topics of philosophical, psychological, ethical and technical significance. The course prepares students for certification from the National Coaching Certification Program (Competition A). May not hold for credit with PHED 3050 (057.305) or KIN 3XXX Coaching Theory and Practice.

KIN 3XXX                    Advanced Coaching Theory and Practice                    +3  
An analysis of the theoretical and practical aspects of coaching at elite levels, with a particular focus on topics of psychological and technical significance. An emphasis is placed on the sport psychology research literature. The course prepares students for certification from the National Coaching Certification Program (Competition B). Prerequisites: PHED 3XXX or KIN 3XXX Coaching Theory and Practice (C). May not be held for credit with PHED 3XXX Advanced Coaching Theory and Practice.

PHED 3XXX                    Advanced Coaching Theory and Practice                    +3  
An analysis of the theoretical and practical aspects of coaching at elite levels, with a particular focus on topics of psychological and technical significance. An emphasis is placed on the sport psychology research literature. The course prepares students for certification from the National Coaching Certification Program (Competition B). Prerequisites: PHED 3XXX or KIN 3XXX Coaching Theory and Practice (C). May not be held for credit with KIN 3XXX Advanced Coaching Theory and Practice.

KIN 3XXX                    Resistance Training and Conditioning                    +3

Development of theoretical and practical knowledge of strength training and conditioning for programming over the entire healthy population from inactive sedentary individuals to elite athletes. Prerequisites: PHED 2320 (057.232) (C) or KIN 2320 and PHED 3430 (057.343) or KIN 3XXX Exercise Physiology (C). May not hold for credit with PHED 2620 (057.262) or PHED 3XXX Resistance Training and Conditioning. Requires a paid facility use pass.

PHED 3XXX Resistance Training and Conditioning +3

Development of theoretical and practical knowledge of strength training and conditioning for programming over the entire healthy population from inactive sedentary individuals to elite athletes. Prerequisites: PHED 2320 (057.232) or KIN 2320 (C) and PHED 3430 (057.343) or KIN 3XXX Exercise Physiology (C). May not hold for credit with PHED 2620 (057.262) or KIN 3XXX Resistance Training and Conditioning. Requires a paid facility use pass.

KIN 3XXX Lifestyle Activities +3

An introduction to the knowledge, skills, and attitudes that aid in the development of lifelong physically active and healthy lifestyles. May not hold for credit with PHED 3XXX or REC 3XXX Lifestyle Activities. Requires a paid facility use pass.

PHED 3XXX Lifestyle Activities +3

An introduction to the knowledge, skills, and attitudes that aid in the development of lifelong physically active and healthy lifestyles. May not hold for credit with KIN 3XXX or REC 3XXX Lifestyle Activities. Requires a paid facility use pass.

REC 3XXX Lifestyle Activities +3

An introduction to the knowledge, skills, and attitudes that aid in the development of lifelong physically active and healthy lifestyles. May not hold for credit with PHED 3XXX or KIN 3XXX Lifestyle Activities. Requires a paid facility use pass.

PHED 3XXX Diverse Populations Mentorship +3

Practical and theoretical aspects of designing physical activity experiences for students from diverse populations, including on site leadership opportunities in a multicultural school context.

PHED 3XXX Aboriginal Games and Activities +3

This course will provide Aboriginal and non-Aboriginal students with a unique opportunity to explore, in theory and practice, traditional and contemporary world views related to historical, cultural, and environmental approaches to Aboriginal games and activities. May not be held for credit with PHED 4350 Aboriginal Games and Activities. Requires a paid facility use pass.

KIN 3910 Athletic Therapy Practicum +6

To provide clinical and on-field internship experiences on campus and in the community for prospective Athletic Therapy candidates. Prerequisite: successful completion of the Athletic Therapy specific courses in the previous year. May not be held for credit with PHED 3910 (057.391).

Courses to be deleted:

PHED 3080	Principles of Planning and Administration in Physical Education	-3
PHED 1360	Aquatics 1	-2
PHED 1380	Track and Field 1	-2
PHED 2420	Soccer 1	-1
PHED 2430	Basketball 1	-1
PHED 2440	Football 1	-1



- PHED 4XXX Outdoor Education +3  
To introduce the students to the basic outdoor skills associated with summer/winter backpacking/cross-country skiing/snow shoeing trips. Students will then learn to use a variety of outdoor settings for educational opportunities on a variety of topics and disciplines. A fieldwork fee is attached to this course. May not be held for credit with KIN 4XXX or REC 4XXX Outdoor Education.
- REC 4XXX Outdoor Education +3  
To introduce the students to the basic outdoor skills associated with summer/winter backpacking/cross-country skiing/snow shoeing trips. Students will then learn to use a variety of outdoor settings for educational opportunities on a variety of topics and disciplines. A fieldwork fee is attached to this course. May not be held for credit with PHED 4XXX or KIN 4XXX Outdoor Education.
- PHED 4XXX Wilderness Adventures +3  
Students will learn how to plan and participate in one or more wilderness adventure activities such as canoe tripping, sailing, kayaking, climbing, winter camping, etc. Students will also concentrate on conducting these activities safely with clients. It is hoped that this experience will positively affect future life sport and recreation activities. A field work fee is attached to this course. May not be held for credit with KIN 4XXX or REC 4XXX Wilderness Adventures.
- KIN 4XXX Wilderness Adventures +3  
Students will learn how to plan and participate in one or more wilderness adventure activities such as canoe tripping, sailing, kayaking, climbing, winter camping, etc. Students will also concentrate on conducting these activities safely with clients. It is hoped that this experience will positively affect future life sport and recreation activities. A field work fee is attached to this course. May not be held for credit with PHED 4XXX or REC 4XXX Wilderness Adventures.
- REC 4XXX Wilderness Adventures +3  
Students will learn how to plan and participate in one or more wilderness adventure activities such as canoe tripping, sailing, kayaking, climbing, winter camping, etc. Students will also concentrate on conducting these activities safely with clients. It is hoped that this experience will positively affect future life sport and recreation activities. A field work fee is attached to this course. May not be held for credit with KIN 4XXX or PHED 4XXX Wilderness Adventures.
- REC 4XXX Supervised Fieldwork Experience +12  
The fieldwork practicum is a professionally supervised field experience that provides an opportunity to apply knowledge gained in academic courses and exposure to new concepts of professional practice in the fields of physical activity, health and wellness or leisure. Students are placed for a 14-week period of full time (35-40 hours per week – totalling 490 hours) work within a suitable agency. Prerequisite: Successful completion of 90 credit hours of course work in the BRMCD degree program and a minimum GPA of 2.5. May not be held for credit with PHED 4620 or 057.462 or REC 3080 or 123.308 or KIN 4XXX.
- KIN 4XXX Supervised Fieldwork Experience +12  
The fieldwork practicum is a professionally supervised field experience that provides an opportunity to apply knowledge gained in academic courses and exposure to new concepts of professional practice in the fields of physical activity, health and wellness or leisure. Students are placed for a 14-week period of full time (35-40 hours per week – totalling 490 hours) work within a suitable agency. Prerequisite: Successful completion of 90 credit hours of course work in the BKin degree program and a minimum GPA of 2.5. May not be held for credit with PHED 4620 or 057.462 or REC 3080 or 123.308 or REC 4XXX.
- KIN 4910 Athletic Therapy Practicum +6

To provide clinical and on-field internship experiences on campus and in the community for prospective Athletic Therapy candidates. Prerequisite: Successful completion of the Athletic Therapy specific courses of the previous year. May not be held for credit with PHED 4910 or 057.4910.

Courses to be deleted:

PHED 3150	Outdoor Activities	-1
PHED 3670	Cross Country Skiing	-1
PHED 3840	Wilderness Skills	-2
PHED 3880	Camping 1	-1
PHED 3890	Winter Camping	-1
PHED 3970	Beginning Kayaking	-1
PHED 3980	Rock Climbing	-1
PHED 3990	Rowing	-1
PHED 4620	Supervised Fieldwork	-12
PHED 4910	Athletic Therapy Practicum	-8
REC 3070	Fieldwork Seminar	-3
REC 3080	Supervised Fieldwork Experience	-12

**NET CHANGE IN CREDIT HOURS: -9 HOURS**

Academic Progression Rules:

Students in the Bachelor of Physical Education, Bachelor of Recreation Management and Community Development and Bachelor of Kinesiology programs will be required to achieve a passing grade of "C" in all core program Faculty courses (i.e. not in out-of Faculty pre-requisites). A grade of "D" will be considered to be a failing grade in core program Faculty courses. Students will be permitted to repeat a failed core program Faculty course only once. Withdrawal from the program will be required following a second failure in the same core program Faculty course.

Exit Requirement for students in all undergraduate programs: Current CPR and First Aid

Proposed Undergraduate Programs at a Glance: Overviews by Year

**Bachelor of Kinesiology (120 credit hours)**

<b>UNIVERSITY 1 – Focused Approach</b>		<b>CH</b>
BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Div., Function and Int.	3
PSYC 1200	Introduction to Psychology	6
STAT 1000	Basic Statistical Analysis (M)	3
"W"	Written Requirement	3
ABIZ 1000	Introduction to Agribusiness Management	3
PERS 1200	Physical Activity, Health & Wellness	3
PERS 1400	Concepts of Recreation & Leisure	3
PERS 1500	Foundations of Phys. Ed. and Kinesiology	3
		<b>30</b>
<b>YEAR 2:</b>		
ZOOL 2530	Human Physiology I	3
ZOOL 2540	Human Physiology II	3

PERS 2XXX	Introduction to Professional Practice (T1)	3
PERS 2XXX	Program Planning Principles (T2)	3
KIN/PHED 2320	Human Anatomy (T1)	3
KIN/PHED 2XXX	Biomechanics (T2)	3
	Electives	12
		<hr/>
		<b>30</b>

**YEAR 3:**

PERS 3XXX	Sociology of PA and Leisure (T1)	3
PERS 3XXX	Inclusive PA and Leisure	3
KIN/REC 3XXX	Philosophy of PA and Leisure (T2)	3
KIN/PHED 3XXX	Exercise Physiology (T1)	3
KIN/REC 3XXX	Introduction to Research	3
KIN/PHED 3XXX	Resistance Training and Conditioning (T2)	3
KIN/PHED 3090	Principles of Fitness Training (T2)	3
	Electives	9
		<hr/>
		<b>30</b>

**YEAR 4:**

PERS 4XXX	Current Issues (T2)	3
KIN 4XXX	Physical Activity and Aging	3
KIN/PHED 3450	Motor Learning (T2)	3
	Electives (may include Field Work)	21
		<hr/>
		<b>30</b>

**Bachelor of Kinesiology – Athletic Therapy (132 credit hours)****UNIVERSITY 1 – Focused Approach** **CH**

BIOL 1020	Biology 1: Principles and Themes	3
BIOL 1030	Biology 2: Biological Div., Function and Int.	3
ABIZ 1000	Introduction to Agribusiness	3
PSYC 1200	Introduction to Psychology	6
STAT 1000	Basic Statistical Analysis	3
"W"	Written Requirement	3
PERS 1200	Physical Activity, Health and Wellness	3
PERS 1400	Concepts of Recreation and Leisure	3
PERS 1500	Foundations of Phys. Ed. and Kinesiology	3

---

**30****YEAR 2:**

ZOOL 2530	Human Physiology 1	3
ZOOL 2540	Human Physiology 2	3
PERS 2XXX	Introduction to Professional Practice (T1)	3
PERS 2XXX	Program Planning Principles (T2)	3
KIN/PHED 2320	Human Anatomy (T1)	3
KIN/PHED 2XXX	Biomechanics (T2)	3
KIN 3XXX	Advanced Human Anatomy (T2)	3
KIN 3200	Basic Trauma and Emergency Support	3
KIN 2XXX	Athletic Therapy Skills (T1)	3
KIN 2910	AT2 Practicum	6

---

**33****YEAR 3:**

PERS 3XXX	Inclusive PA & Leisure	3
KIN/PHED 3XXX	Exercise Physiology (T1)	3
KIN/REC 3XXX	Philosophy of PA & Leisure (T2)	3
KIN/REC 3XXX	Introduction to Research	3
KIN/PHED 3XXX	Resistance Training and Conditioning (T2)	3
KIN 3300	Functional Assessment and Rehab'n	6
KIN 3XXX	Therapeutic Modalities	3
KIN/PHED 3XXX	Pathology and Sport Medicine (T1)	3
KIN/PHED 3090	Principles of Fitness Training (T2)	3
KIN 3910	AT3 Practicum	6

---

**36****YEAR 4:**

HNSC 1210	Nutrition Health and Changing Lifestyles	3
GMGT 2000	Intro to Communications	3
PSYC 3660	Sport Psychology	3
PERS 4XXX	Current Issues (T2)	3
KIN 4XXX	Advanced Pathology and Sport Medicine	3
KIN 4XXX	Physical Activity and Aging	3
KIN 4XXX	Advanced Biomechanics	3
KIN/PHED 3450	Motor Learning (T2)	3
KIN 4XXX	Therapeutic Exercise Rehabilitation	3
KIN 4910	AT4 Practicum	6
	Faculty Elective	3

---

**33**

## Bachelor of Physical Education (102 credit hours)

### UNIVERSITY 1 – Focused Approach CH

ZOOL 1320	Anatomy of the Human Body	3
ZOOL 1330	Physiology of the Human Body	3
PSYC 1200	Introduction to Psychology	6
MATH XXXX	Mathematics Course	3

" W" Requirement:

ENGL XXXX	English Literature (for EMY re: breadth)	6
NATV 1200	Native Peoples of Canada (recommend SY) (6)	
PERS 1500	Foundations of Phys. Ed. and Kinesiology	3
Teachable Minor (SY)/Elective EMY (recommend NATV 1200)		6

---

**30**

### YEAR 2:

*Curriculum orientation:* Pre-term 2 day in-service to introduce the MB Curricular Framework for PE and Health

PERS 2XXX	Introduction to Professional Practice (T1)	3
PERS 1400	Concepts of Recreation & Leisure (T1)	3
KIN/PHED 2320	Human Anatomy (T1)	3
KIN/PHED 2XXX	Biomechanics (T2)	3
PHED 2550	Growth and Motor Development(T1)	3
PERS 2XXX	Program Planning Principles (T2)	3

*Required Experiential Learning Courses:*

PHED 2XXX	Human Movement Principles	3
PHED 2XXX	Developmental Games & Activities	3
PHED 2XXX	Gymnastics, Dance & Rhythmic Activities	3
KIN/PHED 2XXX	Fitness Theory and Practice (T2)	3
Teachable minor		6

---

**36**

### YEAR 3:

PERS 3XXX	Sociology of PA and Leisure (T1)	3
PERS XXX	Inclusive PA and Leisure	3
KIN/PHED 3XXX	Exercise Physiology (T1)	3
KIN/PHED 3450	Motor Learning (T2)	3
PHED 3XXX	Culturally Relevant Phys. Educ. and Health	3
KIN/PHED 3090	Principles of Fitness Training (T2)	3

*Required Experiential Learning Course:*

PHED 3XXX	Active Health and Human Potential	
-----------	-----------------------------------	--

Faculty Electives (must include at least 2 ELC) 9

*Elective theory courses are listed at the end of this section.*

*Elective Experiential Learning Courses (choose 2 or 3):*

KIN/PHED 3XXX	Coaching Theory and Practice	3
KIN/PHED 3XXX	Advanced Coaching Theory & Practice	3
KIN/PHED 3XXX	Resistance Training and Conditioning (T2)	3

PHED 3XXX	Diverse Populations Mentorship	3
PHED 3XXX	Aboriginal Games & Activities	3
KIN/PHED/REC 3XXX	Lifestyle Activities	3
KIN/PHED/REC 3XXX	Outdoor Education	3
KIN/PHED/REC 3XXX	Wilderness Adventures	3
Teachable Minor		6
		<b>36</b>

Note : The Faculty of Education will be implementing a curriculum review in September 2006. We have set aside plans for an integrated BPE/BEd degree at present, however the possibility exists for a shared "Year 4" at some future date.

### **Bachelor of Recreation Management & Community Development (120 credit hrs)**

#### **UNIVERSITY 1 – Focused Approach** **CH**

PSYC 1200	Introduction to Psychology	6
STAT 1000	Basic Statistical Analysis	3
"W"	Written Requirement	3
PERS 1200	Physical Activity, Health & Wellness 3	
PERS 1400	Concepts of Recreation & Leisure	3
PERS 1XXX	Intro to Leisure and Travel	3
PERS 1500	Foundations of Phys. Ed. & Kinesiology	3
	Electives	6
		<b>30</b>

#### **YEAR 2:**

SOC 1200	Introduction to Sociology	6
PERS 2XXX	Introduction to Professional Practice (T1)	3
PERS 2XXX	Program Planning Principles (T2)	3
REC 2XXX	Mgt and Marketing of Leisure Services	3
REC 3850	The Planning of Rec. Areas & Facilities	3
REC 3090	Foundations of SNBT	3
	Electives	9
		<b>30</b>

#### **YEAR 3:**

PERS 3XXX	Sociology of PA & Leisure (T1)	3
PERS 3XXX	Inclusive PA & Leisure (T2)	3
KIN/REC 3XXX	Philosophy of PA & Leisure	3
KIN/REC 3XXX	Introduction to Research	3
REC 3XXX	Advanced Program Planning & Leadership	3
REC 4070	Community Dev't & LSDS	3
REC 4180	Socio-Psychology of Leisure	3
REC 4XXX	Advanced Recreation Courses	6
	Electives	3
		<b>30</b>

#### **YEAR 4:**

PERS 2XXX	Current Issues (T2)	3
REC 4XXX	Advanced Recreation Courses	6
	Electives (may include Field Work):	21
		<b>30</b>

## Elective Theory Courses

PERS 1200 Physical Activity Health and Wellness (elective for BPE only)  
PERS 1XXX Introduction to Leisure Travel  
KIN/PHED 2610 Health and Physical Aspects of Aging  
REC 2650 Social Aspects of Aging  
KIN/PHED/REC 3830 Wilderness Leadership  
KIN/REC 3XXX Philosophy of Physical Activity and Leisure (elective for BPE only)  
KIN/PHED 3XXX Pathology and Sport Medicine  
KIN/PHED 3XXX Canadian Sport History  
KIN 3XXX Fitness Appraisal and Lifestyle Counseling  
KIN 3XXX Advanced Human Anatomy  
KIN 4060 Drugs and Ergogenic Aids in Sport  
KIN 4300 Health and Wellness Practices in Athletic Therapy  
KIN 4XXX Advanced Pathology and Sport Medicine  
KIN 4XXX Advanced Biomechanics  
KIN 4XXX Physical Activity and Aging (elective BPE only)  
KIN 4XXX Advanced Exercise Physiology  
KIN 4XXX Advanced Fitness Appraisal and Lifestyle Counseling  
PERS 4XXX Directed Studies  
PERS 4200 Special Topics  
KIN/REC 4XXX Fieldwork Experience (12 credit hours)

## Advanced Recreation Courses

REC 4060 Person-Centred Leisure Education  
REC 4090 Sustainable Nature-Based Tourism Planning,  
Management and Research  
REC 4120 Recreational Travel and Tourism  
REC 4140 Marketing Recreation and Park Services  
REC 4150 Clinical Aspects of Therapeutic Recreation  
REC 4170 Sport Management  
REC 4310 The Administration of Leisure Services  
REC 4XXX Advanced Planning of Recreation Areas and  
Facilities  
REC XXXX Parks and Protected Areas Planning and  
Management: Field Studies (6 credit hours)  
REC 4XXX Leisure and Aging  
PERS 4200 Special Topics

## Faculty of Science

### Actuarial Mathematics Program

Proposed program changes:

[The changes are identified with strikethrough (deletions) and bold underlined text (**additions**).]

To enter the program, a student must have **at least 3 credit hours in an approved Written English Course, ECON 1200, STAT 1000, STAT 2000, MATH 1500 and MATH 1700 (or MATH 1690) and MATH 1300 or any equivalent with a grade of at least "B" in all of the above courses MATH 1700 (or MATH 1690) and MATH 1300** and have satisfied the Faculty of Science requirements for entry to the

Honours program. ~~Courses COMP 1010, COMP 1260 and ECON 1200 are strongly recommended in University 1. It is strongly recommended by the Warren Centre that the Students must complete a minimum of 24 credit hours per regular session.~~

**4.1.2 Actuarial Mathematics, Department Code: 010**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS ACTUARIAL<sup>2</sup> 120 CREDIT</b> (comprising courses listed in chart below, and electives)			
<b>ECON 1200 (B)</b> , MATH 1690 (B), (or MATH 1500 <sup>1</sup> and MATH 1700 <sup>1</sup> (B)), MATH 1300 <sup>1</sup> (B), and STAT 1000 (B), <b>STAT 2000 (B) and required "W" course (B)</b> Plus 6 <del>3</del> credit hours from the Faculty of Arts <b>if a 3 credit hour "W" course is taken</b> , which should include the required "W" course <b>Plus 3 credit hours of electives</b>	ACT 2120, <del>ACT 2020</del> , STAT 2000 <sup>3</sup> , <del>STAT 2xy0</del> , <b>STAT 3500</b> , <b>ACC 1100<sup>3</sup> (B)</b> , <b>FIN 2200<sup>3</sup> (B)</b> , MATH 2750 (or MATH 2720 and MATH 2730), <del>MSCI 2150<sup>5</sup></del> , <b>MATH 2300<sup>5</sup></b> <b>Plus 3 credit hours of approved electives</b>	ACT 3130, ACT 3230, <del>ACT 3330</del> , ACT 3530, STAT 3050, <del>STAT 3500<sup>6</sup></del> , STAT 3600 <sup>6</sup> , <b>STAT 3470 (B)</b> , MATH 3700, <b>COMP 1260<sup>6</sup> and MSCI 2150<sup>6</sup></b> <b>Plus 6 credit hours of approved electives</b>	ACT 4140, ACT 4150, ACT 4240, or ACT 4000, ACT 4340, <del>STAT 3470<sup>4</sup></del> , STAT 3490 <sup>4</sup> (B), MATH 2300 <sup>5</sup> <b>Plus 12 credit hours of approved electives</b>
30 Hours	30 Hours	30 Hours	30 Hours

**JOINT MATHEMATICS-ACTUARIAL MATHEMATICS HONOURS:** See Section 4.12, Mathematics

**JOINT STATISTICS-ACTUARIAL MATHEMATICS HONOURS:** See Section 4.16, Statistics

**NOTES:**

- <sup>1</sup> MATH 1510, MATH 1520 or MATH 1530 may be taken instead of MATH 1500; MATH 1310 may be taken instead of MATH 1300; MATH 1710 or MATH 1730 may be taken instead of MATH 1700.
- <sup>2</sup> The courses required in this program will satisfy the university mathematics requirement.
- <sup>3</sup> ~~STAT 2000 may be taken in University 1 or Year 2.~~
- <sup>3</sup> ACC 1100 and FIN 2200 may be taken in Year 2, 3 or 4; however, it is strongly recommended that these two courses be taken in Year 2 or 3. Note that ACC 1100 is the pre-requisite for FIN 2200.
- <sup>4</sup> ~~MATH 3700, STAT 3470 and (or) STAT 3490 may be taken in Year 3 or 4.~~
- <sup>5</sup> ~~MATH 2730~~ **MATH 2300** and ~~MSCI 2150~~ may be taken in Year 2, 3 or 4.
- <sup>6</sup> ~~STAT 3500 and STAT 3600 may be taken in Year 2 or 3.~~
- <sup>6</sup> **COMP 1260 and MSCI 2150 may be taken in Year 2, 3 or 4. Note that COMP 1260 is the pre-requisite for MSCI 2150.** (Letters in brackets indicate minimum prerequisite grades standing for further study.)

The electives in Year 3 and Year 4 are to be chosen from Actuarial Mathematics, approved Business courses, Computer Science, Economics, Mathematics (MATH 2200 and 3000 or 4000 level) and Statistics (STAT 3480 or 4000 level courses). Other electives may be selected through consultation with the program director.

**Recommended Electives**

**University 1:** Psychology 1200 or Sociology 1200 ~~Computer Science COMP 1010, COMP 1260; ECON 1200~~

**Year 2:** ~~Accounting and Finance ACC 1100, FIN 2200;~~ **Business Administration GMGT 2000**

**Year 3:** ~~Accounting and Finance FIN 3410;~~ **Statistics STAT 3480**

**Year 4:** ~~Accounting and Finance FIN 3270; Actuarial Mathematics ACT 4050, ACT 4060; Business Administration GMGT 2000, MSCI 4230; Statistics STAT 4140,~~ **STAT 4520, STAT 4530, STAT 4630.**





BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310	BOTN 2010, BOTN 2020, BOTN 2110, BOTN 2370 (ZOO 2370 or AGE 2370) <sup>2</sup> , BOTN 2460, ZOO 2280 and Either: CHEM 2210 plus CHEM 2360 and CHEM 2370 (MBIO 2360 and MBIO 2370); or CHEM 2770 and CHEM 2780 (MBIO 2770 and MBIO 2780)	BOTN 3010, BOTN 3070, BOTN 3570	BOTN 3190, BOTN 4600
--	---	---------------------------------	----------------------

In University 1 or Year 2 the following must be completed: BOTN 3000 (ZOO 3000), plus 21 credit hours of 3000 or 4000 level Botany courses; plus 18 credit hours from Botany, Microbiology, Zoology or related fields

3 credit hours of Mathematics or Physics from MATH 1200, MATH 1300<sup>1</sup>, MATH 1500<sup>1</sup>, PHYS 1020 or PHYS 1050, STAT 2000

STAT 1000

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: BOTN 1010 may also be selected to fulfill the "W" requirement

30 Hours

30 Hours

30 Hours

30 Hours

**FOUR YEAR MAJOR<sup>3,4</sup> 120 CREDIT HOURS** (comprising courses listed in chart below, and electives)

BIOL 1020, BIOL 1030, CHEM 1300, CHEM 1310,	BOTN 2010, BOTN 2020, BOTN 2110, BOTN 2370 (ZOO 2370 AGE 2370) <sup>2</sup> , BOTN 2460, ZOO 2280	BOTN 3010, BOTN 3070	BOTN 3190
---	---	----------------------	-----------

Either: CHEM 2210 plus CHEM 2360 and CHEM 2370 (MBIO 2360 and MBIO 2370); or CHEM 2770 and CHEM 2780 (MBIO 2770 and MBIO 2780)

In University 1 or Year 2 the following must be completed: BOTN 3000 (ZOO 3000), plus 18 credit hours of 3000 or 4000 level Botany courses

3 credit hours of Mathematics or Physics from MATH 1200, MATH 1300<sup>1</sup>, MATH 1500<sup>1</sup>, PHYS 1020 or PHYS 1050, STAT 2000

STAT 1000

6 credit hours from the Faculty of Arts, which should include the required "W" course. Note: BOTN 1010 may also be selected to fulfill the "W" requirement.

**NOTES:**

<sup>1</sup> MATH 1310 may be taken in place of MATH 1300; MATH 1510, MATH 1520, MATH 1530, MATH 1680 or MATH 1690 may be taken in place of MATH 1500.

<sup>2</sup> BOTN 2370 (ZOO 2370 or AGE 2370) has STAT 1000 as corequisite.

<sup>3</sup> The courses in this program will satisfy the university mathematics requirement.

<sup>4</sup> IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program with a view to satisfying the prerequisites of the required courses.

**The changes are:**

1. Removal of STAT 2000 as a required course in the Honours and Major programs.
2. Adding STAT 2000 to the list of required "3 credit hours of Mathematics or Physics from MATH 1200..." in the Honours and Major programs.
3. BOTN 2110 moves from University 1 Year to Year 2 in the Honours and Major programs.

Chemistry

Course to be introduced:

CHEM 4XY0

Drug Design and Drug Discovery

+3

An understanding of the design, synthesis and interactions of drug molecules. Emphasis will be on novel drug-like molecules in the early stages of drug discovery with special focus on brain diseases and infectious diseases. *Prerequisites:* CHEM 2220 (C) and one of CHEM 2360 (MBIO 2360) (C) or CHEM 2860 (C).

Course to be modified:

**CHEM 0900 Preparatory Chemistry (0)**

A course designed for students with little or no background in chemistry who wish to achieve the prerequisites for advanced courses, or for students who require a refresher course in basic chemistry. Graded Pass/Fail. Concurrent registration in CHEM 0900 and any of CHEM 1300, CHEM 1301, CHEM 1310, CHEM 1311 or CHEM 1320 is not permitted. Prerequisite or concurrent requirement: Any grade 12 or 40S mathematics or equivalent.

**Proposed Program Changes**

4.6.3 <sup>2</sup> Chemistry, Department Code: 002			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
CHEM 1300(B), CHEM 1310(B), PHYS 1050(C) (or PHYS 1020(C+)) and PHYS 1070(C), MATH 1500 <sup>1</sup> (C), MATH 1700(C) <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380, CHEM 2470, CHEM 2860 (CHEM 2360) Plus 3 credit hours from Mathematics, Statistics or Computer Science courses <sup>3</sup>	CHEM 3380, CHEM 3590 Sufficient credit hours from 2000, 3000 and 4000 level Chemistry <sup>4</sup> courses not yet taken to total a minimum of 60 credit hours Plus a maximum of 9 credit hours of non focus area <sup>4</sup>	CHEM 4600 and CHEM 4710
In University 1 or Year 2 the following must be completed: 6 credit hours from the Faculty of Arts, which should include the required "W" course.			
30 Hours	30 Hours	30 Hours	30 Hours
<b>HONOURS COOPERATIVE OPTION 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			

CHEM 1300(B), CHEM 1310(B); PHYS 1050(C), (or PHYS 1020(C+)) and PHYS 1070(C) MATH 1500 <sup>1</sup> (C), MATH 1700(C) <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380, CHEM 2470, CHEM 2860 (CHEM 2360) Plus 3 credit hours from Mathematics, Statistics or Computer Science courses <sup>3</sup>	CHEM 3380, CHEM 3590 Sufficient credit hours from 2000, 3000 and 4000 level Chemistry <sup>4</sup> courses not yet taken to total a minimum of 60 credit hours Plus a maximum of 9 credit hours of non-Chemistry courses which are part of a focus area <sup>4</sup>	CHEM 4600 and CHEM 4710
--	---	---	----------------------------

---

CHEM 3980, CHEM 3990, CHEM 4980 and/or CHEM 4990

---

In University 1 or Year 2 the following must be completed:  
6 credit hours from the Faculty of Arts, which should include the  
required "W" course.

30 Hours

30 Hours

30 Hours

30 Hours

---

**MAJOR<sup>4</sup> 120 CREDIT HOURS** (comprising courses listed in chart below, and electives)

---

CHEM 1300(C+), CHEM 1310(C+), PHYS 1050 (or PHYS 1020) and PHYS 1070, MATH 1500 <sup>1</sup> , MATH 1700 <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380, CHEM 2470, CHEM 2860 (CHEM 2360) Plus 3 credit hours from Mathematics, Statistics or Computer Science courses <sup>3</sup>	CHEM 3380, CHEM 3590 Sufficient credit hours from 2000, 3000 and 4000 level Chemistry <sup>4</sup> courses not yet taken to total a minimum of 54 credit hours Plus a maximum of 9 credit hours of non-Chemistry courses which are part of a focus area <sup>4</sup>	CHEM 4600
--	---	---	-----------

In University 1 or Year 2 the following must be completed:  
6 credit hours from the Faculty of Arts, which should include the  
required "W" course.

---

**MAJOR COOPERATIVE OPTION<sup>4</sup> 120 CREDIT HOURS** (comprising courses listed in chart below, and electives)

---

CHEM 1300(C+), CHEM 1310(C+), PHYS 1050 (or PHYS 1020) and PHYS 1070, MATH 1500 <sup>1</sup> , MATH 1700 <sup>1</sup>	CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380, CHEM 2470, CHEM 2860 (CHEM 2360) Plus 3 credit hours from Mathematics, Statistics or Computer Science courses <sup>3</sup>	CHEM 3380, CHEM 3590 Sufficient credit hours from 2000, 3000 and 4000 level Chemistry <sup>4</sup> courses not yet taken to total a minimum of 54 credit hours Plus a maximum of 9 credit hours of non-Chemistry courses which are part of a focus area <sup>4</sup>	CHEM 4600
--	---	---	-----------

---

In University 1 or Year 2 the following must be completed:  
6 credit hours from the Faculty of Arts, which should include the  
required "W" course.

CHEM 3980, CHEM 3990, CHEM 4980 and/or CHEM 4990

---

### THREE YEAR GENERAL

---

CHEM 1300(C) and CHEM 1310(C)	A minimum of 12 credit hours from: CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380, CHEM 2470
-------------------------------	---

---

### MINOR

---

CHEM 1300(C) and CHEM 1310(C)	Normally CHEM 2210 and CHEM 2220, plus an additional 6 credit hours
-------------------------------	---

---

---

**JOINT MICROBIOLOGY-CHEMISTRY HONOURS AND FOUR YEAR MAJOR IN BIOCHEMISTRY:** See Section 4.2 Biochemistry Program

---

**JOINT MICROBIOLOGY-CHEMISTRY HONOURS IN BIOTECHNOLOGY:** See Section 4.4 Biotechnology Program

---

#### NOTES:

<sup>1</sup> MATH 1510, MATH 1520 or MATH 1530 may be taken in place of MATH 1500; MATH 1710 or MATH 1730 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

<sup>2</sup> The courses required in this program will satisfy the university mathematics requirement.

<sup>3</sup> MATH 1010, MATH 1020, MATH 1190, MATH 1191, COMP 1260 and COMP 1270 may not be used to satisfy this requirement.

<sup>4</sup> Students are required to complete 27 credit hours in addition to the Chemistry Core courses. The 27 credit hours must include a minimum of 18 credit hours of Chemistry at the 2000, 3000 or 4000 level and a maximum of 9 credit hours on non-Chemistry courses. This selection of courses may be used to create a focus area, e.g. Bioanalytical Chemistry, Materials Science, Environmental Chemistry, Biopharmaceutical Chemistry.

<sup>5</sup> IMPORTANT: The four year Major program need not be completed in the manner prescribed in the chart above. The chart indicates one possible arrangement of the required courses and is meant to be a guide around which students can plan their program. (Letters in brackets indicate minimum prerequisite standing for further study.)

---

### The changes are:

1. The required credit hours in the Honours and Major programs have been reduced from 63 to 60 and 57 to 54, respectively as the former 002.347 (6) has been replaced with CHEM 3590 (3) and CHEM 4590 (3) of which only CHEM 3590 is required in the programs.
2. As a result of the above, the Honours and Honours Co-operative programs have been reduced from 123 to 120 credit hours.
3. Within the 63 (57) credit hours, students were previously required to complete, beyond the first year level, 3 credit hours of Biochemistry, 6 credit hours of Analytical Chemistry, 6 credit hours of Inorganic Chemistry, 6 credit hours of Organic Chemistry and 9 credit hours of Physical Chemistry. Students will now only require 6 credit hours of Physical Chemistry.
4. Students were previously required to complete Mathematics 136.120 and 136.130 or 136.131. These 6 credit hours have been replaced with 3 credit hours of Mathematics, Statistics or Computer Science (with the exception of MATH 1010, MATH 1020, MATH 1190 or MATH 1191 and COMP 1260 and COMP 1270).
5. Students are required to complete 27 credit hours in addition to the Chemistry Core courses (CHEM 1300, CHEM 1310, CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380, CHEM 2470, CHEM 2860 (or CHEM 2360 or MBI0 2360), CHEM 3380, CHEM 3590, CHEM 4600; and 4710 for Honours students). These 27 credit hours must include a minimum of 18 credit hours of Chemistry at the 2000, 3000 or 4000 level and a maximum of 9 credit hours on non-Chemistry

courses. This selection of courses may be used to create a focus area, e.g. Bioanalytical Chemistry, Materials Science, Environmental Chemistry, Biopharmaceutical Chemistry.

### Chemistry- Physics Joint Program

#### 4.6.3<sup>2</sup> Chemistry – Physics Joint Program, Department Code: 002P

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
CHEM 1300(B), CHEM 1310(B), PHYS 1050(B) (or PHYS 1020(B+)) and PHYS 1070(B), MATH 1500 <sup>1</sup> (B), MATH 1700(B) <sup>1</sup> Plus 6 credit hours of electives Plus 6 credit hours from the Faculty of Arts, which should include the required "W" course	CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2380 or CHEM 2470, PHYS 2390, PHYS 2380, PHYS 2490, PHYS 2600, PHYS 2650	12 credit hours from whichever of CHEM 2380 or 2470 not taken and any of CHEM 2860 (CHEM 2360 (MBIO 2360)), CHEM 2370 (MBIO 2370) or 3000 or 4000 level Chemistry courses PHYS 2260, PHYS 2610, PHYS 3380, PHYS 3630, PHYS 3670, PHYS 3680	CHEM 4600 CHEM 4710 or PHYS 4670 PHYS 4390 Plus 6 credit hours from 3000 or 4000 level Physics courses  Plus 3 credit hours from 3000 or 4000 level Chemistry courses  Plus 9 credit hours of electives
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>1</sup> MATH 1510, MATH 1520 or MATH 1530 may be taken in place of MATH 1500; MATH 1710 or MATH 1730 may be taken in place of MATH 1700; MATH 1690 may be taken in place of MATH 1500 and MATH 1700.

<sup>2</sup> The courses required in this program will satisfy the university mathematics requirement.

### Computer Science

Courses to be modified:

#### COMP 1010 Introductory Computer Science 1 (3) L

An introduction to computer programming using a procedural high-level language. Not to be held with COMP 1011, or the former 074.101, 074.112, 074.121, 074.123, or 074.125. Prerequisite: Any grade 12 or 40S mathematics or equivalent.

#### COMP 1011 Introduction à l'informatique 1 (3) L

Introduction à la programmation par un langage procedural évolué. On ne peut se faire créditer le COMP 1011 et les anciens 074.112, 074.121, 074.123 ou 074.125. Préalable: un cours de mathématiques de grade 12, 40S ou l'équivalent.

**COMP 1020** Introductory Computer Science 2 (3) L

Introduction to object orientation, data structures, and algorithms. Not to be held with COMP 1021 or the former 074.102, 074.121, 074.123 or 074.125. Prerequisite: COMP 1010 or COMP 1011 (or 074.101) (C) or Computer Science 40S (75 percent); and any grade 12 or 40S mathematics or equivalent.

**COMP 1021** Introduction à l'informatique II (3) L

Autres caractéristiques d'un langage procédural, les éléments de la programmation. On ne peut se faire créditer le COMP 1021 et les anciens 074.121, 074.123, et 074.125. Préalable: : N'importe quel cours de mathématiques de 12e année ou de niveau 40S, ou l'équivalent, COMP 1011 ou COMP 1010 (ancien 074.101).

**COMP 2150** Object Orientation (3)

Design and development of object-oriented software. Topics will include inheritance, polymorphism, data abstraction and encapsulation. Examples will be drawn from several programming languages. Not to be held with the former 074.215 or 074.227. Prerequisite: COMP 2140 (or 074.214) (C) or COMP 2061 (or 074.206F or 074.206) (C).

**COMP 2280** Introduction to Computer Systems (3) L

Data representation and manipulation, machine-level representation of programs, assembly language programming, basic computer architecture. Not to be held with the former 074.228, 074.222, or 074.240 Prerequisites: COMP 2140 (or 074.214) (C) and COMP 2160 (or 074.216) (C) and COMP 2130 (or 074.213) (C).

Genetics Program

BOTN/ZOOL 3000 Evolutionary Biology is added to the options list in the Genetics Program.

Mathematics

Courses to be deleted:

MATH 2100	MATHEMATICAL METHODS FOR ENGINEERS 1	-(4)L
MATH 2110	MATHEMATICAL METHODS FOR ENGINEERS 2	-(4)L
MATH 3100	MATHEMATICAL METHODS FOR ENGINEERS 3	-(3)L
MATH 3500	APPLIED LINEAR ALGEBRA	-(3)
MATH 2350	LINEAR ALGEBRA WITH APPLICATIONS	-(6)

Courses to be introduced:

**MATH 2AB0** ENGINEERING MATHEMATICAL ANALYSIS 1 + (3)L  
Multivariable differential and integral calculus up to and including multiple integrals in cylindrical and spherical coordinates. Not to be held with the former MATH 2100 or MATH 2110. Prerequisites: MATH 1210 and MATH 1710.

**MATH 2AC0** ENGINEERING MATHEMATICAL ANALYSIS 2 + (3)L  
Infinite series, Taylor and Maclaurin Series; Ordinary differential equations including Laplace transforms. Not to be held with the former MATH 2100 or MATH 2110. Prerequisites: MATH 1210 and MATH 1710.

MATH 3AB0                      ENGINEERING MATHEMATICAL ANALYSIS 3                      +(3)  
Vector integral calculus; series of Ordinary differential equations; Fourier series and Partial differential equations. Not to be held with the former MATH 3100. *Prerequisites:* MATH 2AB0 and MATH 2AC0.

MATH 4LA0                      APPLIED MATRIX ANALYSIS                      +(3)  
Vector and matrix norms; LU, QR, Schur, and singular value decompositions; projections; least squares; Gerschgorin theorem, perturbation theory; positive definite systems; quadratic forms; pseudoinverse; diagonalization; canonical forms; function of matrices; minimal polynomials; Perron-Frobenius theory; and applications. *Prerequisite:* MATH 2300 or MATH 2350

MATH 2BA0                      ADVANCED LINEAR ALGEBRA                      +(6)  
Vector spaces, linear transformations, inner product spaces, eigenvalues and eigenvectors, orthogonal and Hermitian matrices, and applications. This course is taught at an Honours/Major level. Not to be held with the former MATH 2350 (136.235) or MATH 2300 or MATH 2301 (or 136.230) (or the former 013.246 or 013.235). *Prerequisites:* a grade of "C+" or better in MATH 1300 or MATH 1301 (or 136.130) or MATH 1310 (or 136.131 or 013.146), and a grade of "C+" or better in one of MATH 1690 (or 136.169), MATH 1700, MATH 1701 (or 136.170), MATH 1710 (or 136.171) or MATH 1730 (or 136.173) (or the former 013.149, 013.159 or 006.126).

Course to be modified

MATH 2120      INTRODUCTORY NUMERICAL METHODS FOR ENGINEERS (4)  
Numerical methods applied to problems in engineering; roots of nonlinear equations and systems of linear equations and systems of linear equations, numerical differentiation and integration, initial-value problems. For Engineering and Geophysics students only. Not to be held with MATH 2600 or MATH 2601 (or 136.260 or 006.220), the former 010.344 or 006.270. *Prerequisites:* COMP 1010 or COMP 1011 (or 074.101 or 074.111 or 074.112) (C), and MATH 2100 (or 136.210 or 006.260) (C).

### Microbiology

Course to be added:

MBIO 4XY1 (4411)                      VIROLOGIE                      +(3)  
Une analyse compréhensive des propriétés fondamentales des virus, de la taxonomie virale ainsi que les façons dans lesquelles les virus se reproduisent. Les méthodes expérimentales utilisées en virologie et les façons que les virus provoquent des maladies seront examinées aussi. On ne peut pas se faire créditer à la fois MBIO 4410 (ancien 060.441) et MMIC 7010 (ancien 097.701). *Préalables:* MBIO 3010 (ancien 060.301) et MBIO 3410 (ancien 060.341). Donnée seulement au Collège universitaire de Saint-Boniface.

Course to be modified:

MBIO 1220      Essentials of Microbiology (3)  
A review of the essential principles of microbiology including immunity, with emphasis on microbial disease. This course is intended for students in the Faculty of Nursing. Not available to students who have previously obtained credit in or are currently enrolled in 060.301. *Prerequisite:* any grade 12 or 40S mathematics or equivalent.

Program Change:

CHEM 4XY0 Drug Design and Drug Discovery (3) is added to the Options List.

Physics and Astronomy

Course to be introduced:

PHYS 2XY0 MODERN PHYSICS FOR ENGINEERS + (3)L

An overview of topics in modern physics including wave particle duality, atomic structure and quantum mechanics. Elementary classical electromagnetic theory and wave theory are reviewed as an introduction to the modern physics concepts. For Engineering students only (Not to be held with PHYS 1070, PHYS 2380 or PHYS 2250) *Prerequisites:* PHYS 1050 or PHYS 1051 (or 016.105) (or the former 016.118) (C) or PHYS 1020 or PHYS 1021 (or 016.102) (B), and MATH 1500 or MATH 1501 (or 136.150) or MATH 1510 (or 136.151), MATH 1520 (or 136.152), MATH 1530 (or 136.153) (or the former 006.125 or 013.139) (C). *Prerequisite or concurrent requirement:* MATH 1700 or MATH 1701 or MATH 1690, MATH 1710, MATH 1730.

This will be a service course for Engineering students only.

Psychology

**Proposed Program:**

4.15.2 Psychology, Department Code: 017

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS<sup>9</sup> 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
PSYC 1200 (B+) (or PSYC 1210 (B+) and PSYC 1220 (B+)) 6 credit hours Science <sup>1</sup> (B)	PSYC 2300W,M, <sup>2</sup> 6 credit hours 2000 or 3000 level <sup>3</sup> Psychology 15 credit hours Science <sup>6</sup> 3 credit hours options <sup>7</sup>	3 credit hours from PSYC 3630, PSYC 3XXX 15 credit hours Psychology <sup>4</sup> 9 credit hours Science <sup>6</sup> 3 credit hours options <sup>7</sup>	PSYC 4520 18 credit hours Psychology <sup>5</sup> 6 credit hours Science <sup>6</sup>
30 Hours	30 Hours	30 Hours	30 Hours

**The change is:**

1. PSYC 4500 and PSYC 4570 are removed from Year 3 in the Honours program and PSYC 3XXX Design and Analysis for Psychological Experiments (3) has been added.

Statistics

Course to be introduced:

STAT 2XY0 Introduction to Probability +3L

Basic probability, discrete distributions including binomial, hypergeometric, geometric and Poisson, joint distributions, continuous distributions, statistical inference and applications involving discrete random variables. *Prerequisites:* STAT 1000 or STAT 1001 (or 005.100) and

MATH 1700 or MATH 1701, or MATH 1710, or MATH 1730 (or 136.170), or MATH 1690 (or 136.169).

Courses to be modified:

**STAT 1000 Basic Statistical Analysis 1 M L (3)**  
(Formerly 005.100) An introduction to the basic principles of statistics and procedures used for data analysis. Topics to be covered include: gathering data, displaying and summarizing data, examining relationships between variables, sampling distributions, estimation and significance tests, inference for means. Not to be held with STAT 1001, STAT 2220 (or 005.222) (or the former 005.101, 005.120, 005.201, 005.210, 005.211, 005.220, 005.221, 005.231, 005.241, or 005.250). Prerequisite: Any grade 12 or 40S mathematics or equivalent.

**STAT 1001 F Analyse statistique de base 1 M L (3)**  
Introduction aux principes fondamentaux de la statistique et aux procédures utilisées en analyse de données. Étude de la cueillette de données, de l'affichage et de l'élagage de données, des relations entre variables, des distributions échantillonnées, de l'estimation, des tests de signification et de l'inférence pour les moyennes. On ne peut se faire créditer le STAT 1001 et le STAT 2220 (ancien 005.222) (ou les anciens 005.101, 005.120, 005.201, 005.210, 005.211, 005.220, 005.221, 005.231, 005.241, ou 005.250). Préalable: : N'importe quel cours de mathématiques de 12e année ou de niveau 40S, ou l'équivalent.

**STAT 3470 Statistical Methods for Research Workers (3)**  
(Formerly 005.347) Linear regression, multiple regression, correlation analysis, introduction to one way analysis of variance, some related topics. Not to be held with STAT 3120 (or 005.312). Prerequisite: STAT 2000 (or 005.200). Prerequisite or concurrent requirement: STAT 3500.

**STAT 3500 Intermediate Statistical Theory 1 (3)**  
(Formerly 005.350) Basic probability theory, distribution theory, special distributions and functions of random variables. Not to be held with the former 005.331 or STAT 3410 (or 005.341). Prerequisite: STAT 2XY0. Prerequisite or concurrent requirement: MATH 2720 or MATH 2721 or MATH 2730 or MATH 2731.

**STAT 4620 Mathematical Probability (3)**  
(Formerly 005.462) Combinatorial and enumerative procedures, occupancy problems, limit theorems, laws of large numbers, characteristic functions. Not to be held with the former 005.456. Prerequisite: STAT 3050 (or 005.305) (C), and STAT 3600 (or 005.360) (C) or consent of department.

**STAT 4630 Stochastic Processes (3)**  
(Formerly 005.463) An introduction to stochastic processes. Prerequisite: STAT 3050 (or 005.305) (C), and STAT 3600 (or 005.360) (C) or consent of department head.

Program changes:

### **Honours Requirements**

Students will normally take STAT 2000 and STAT 2XY0 in second year and enter Honours in Year 3.

To enter the Honours program students must have a "B" or better in STAT 2000 and STAT 2XY0, and either an average grade of "B" or better with a minimum grade of "C+" in each of MATH 1500 and MATH 1700 or any equivalents; or a minimum grade of "C+" in MATH 1690.

## Four Year Major Requirements

Students will normally take STAT 2000 and STAT 2XY0 in Year 2 and enter the four year Major in Year 3.

To enter the four year Major program in Statistics, students must have a "C+" or better in STAT 2000 and STAT 2XY0, and either an average grade of "C+" or better with a minimum grade of "C" in each of MATH 1500<sup>2</sup> and MATH 1700<sup>2</sup>; or a minimum grade of "C" in MATH 1690. In addition, students must have satisfied the faculty requirements for entry to the four year Major.

4.16.3 Statistics, Department Code: 005			
UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>HONOURS<sup>1</sup> 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
STAT 1000, MATH 1690 (or MATH 1500 <sup>2</sup> and MATH 1700 <sup>2</sup> ), MATH 1300 <sup>2</sup> Plus sufficient credit hours of electives to total 30 credit hours	STAT 2XY0 (B) MATH 2300, MATH 2720 and MATH 2730 (or MATH 2750) Plus sufficient credit hours of electives to total 30 credit hours <sup>4</sup>	STAT 3050, STAT 3470 and STAT 3480, STAT 3500, STAT 3600, MATH 3740	STAT 4140, STAT 4520, STAT 4530
The following courses must be taken in University 1 or Year 2 COMP 1010, STAT 2000 (B), MATH 1200 6 credit hours from the Faculty of Arts, which should include the required "W" course		Plus 15 credit hours from STAT 3010, STAT 3170, STAT 3180, STAT 3380, STAT 3490, STAT 4580, STAT 4590, STAT 4600, STAT 4620, STAT 4630, STAT 4690, STAT 4700 with at least 9 credit hours from STAT 4170, STAT 4580, STAT 4590, STAT 4600, STAT 4620, STAT 4630, STAT 4690 and STAT 4700 Plus 12 credit hours <sup>4</sup>	
30 Hours	30 Hours	30 Hours	30 Hours

---

**FOUR YEAR MAJOR<sup>1,7</sup> 120 CREDIT HOURS** (comprising courses listed in chart below, and electives)

---

STAT 1000, MATH 1690 (or MATH 1500 <sup>2</sup> and MATH 1700 <sup>2</sup> ), MATH 1300 <sup>2</sup>	STAT 2XY0 MATH 2720, MATH 2730	STAT 3120, STAT 3130, STAT 3500, STAT 3600	STAT 4520, STAT 4530
--	-----------------------------------	--	----------------------

---

The following courses must be taken in University 1 or Year 2  
COMP 1010, STAT 2000 (C+), MATH 1200  
6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus 15 credit hours from STAT 3010, STAT 3050, STAT 3170, STAT 3180, STAT 3380, STAT 3490, STAT 4140, STAT 4170, STAT 4580, STAT 4590, STAT 4600, STAT 4620, STAT 4630, STAT 4690, STAT 4700  
Plus 15 additional credit hours from list below<sup>5</sup>

---

**MINOR**

---

STAT 1000	STAT 2000 Plus 12 credit hours from STAT 2XY0, STAT 3010, STAT 3050, STAT 3120, STAT 3130, STAT 3170, STAT 3180, STAT 3380, STAT 3490, STAT 3500 <sup>5</sup> , STAT 3600 <sup>5</sup> , STAT 4600, STAT 4630, STAT 4690
-----------	---

---

**The changes are:**

1. STAT 2XY0 has been added as an entrance requirement for the Honours and Four Year Major programs.
2. In Years 3 and 4 (combined), "18 credit hours" has been replaced with "15 credit hours" as a result of the addition of STAT 2XY0.
3. STAT 2XY0 is included in the list of courses from which 12 credit hours (minimum) could be taken for the B. Sc. General program.
4. STAT 2XY0 is included in the list of courses from which 12 credit hours could be taken for the Minor program.

**Statistics- Economics Joint Program****Program Changes:**

---

**4.16.6 Statistics – Economics Honours Joint Program**, Department Code: 005E

The Department of Statistics along with the Department of Economics (Faculty of Arts) offer a Joint Honours program for students wishing in depth study in Statistics and Economics. For Economics course listings, refer to the Faculty of Arts chapter in the Calendar.

---

Students will normally take STAT 2000 and STAT 2XY0 in second year and enter Honours in Year 3. To enter the Joint Honours Statistics – Economics program, the student must have a minimum grade of "B" in ECON 1200 (or ECON 1210 and ECON 1220) and STAT 2000 and STAT 2XY0, and an average grade of "B" or better with a minimum grade of "C+" in each of MATH 1500 and MATH 1700 or any equivalents and have satisfied the Faculty of Science requirements for entry to the Honours program. Students must complete a minimum of 24 credit hours per regular session.

---

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
--------------	--------	--------	--------

---

**JOINT HONOURS<sup>4</sup> 120 CREDIT HOURS** (comprising courses listed in chart below, and electives)

---

ECON 1200 (or ECON 1210 and ECON 1220), MATH 1300 <sup>1</sup> , MATH 1500 <sup>1,2</sup> , MATH 1700 <sup>1,2</sup> , STAT 1000, COMP 1010 Plus 9 credit hours of electives which should include the required "W" course	STAT 2XY0 ECON 2700, ECON 2800, MATH 2200, MATH 2350, MATH 2750, STAT 2000 Plus 3 credit hours of approved Economics electives <sup>3</sup>	ECON 3700, ECON 3800, MATH 3740 or MATH 3760, STAT 3470, STAT 3480, STAT 3490, STAT 3500, STAT 3600 Plus 3 credit hours of approved Economics electives <sup>3</sup>	ECON 4120, ECON 4130, STAT 4140, STAT 4520, STAT 4530, STAT 4580 Plus 12 credit hours of approved Economics electives <sup>3</sup>
30 Hours	30 Hours	30 Hours	30 Hours

**NOTES:**

<sup>1</sup> MATH 1310 may be taken in place of MATH 1300; MATH 1510, MATH 1520 or MATH 1530 may be taken in place of MATH 1500; MATH 1710 or MATH 1730 may be taken in place MATH 1700.

<sup>2</sup>The combination of MATH 1500<sup>1</sup> and MATH 1700<sup>1</sup> may be replaced by MATH 1690.

<sup>3</sup>Of the 18 credit hours in Economics electives in Years 2, 3 and 4, no more than 6 credit hours may be at the 2000 level or below; ECON 2530 and ECON 3180 are recommended in Year 2 or 3. The normal prerequisite for ECON 3180 is ECON 3170, which will be waived for students in this program who have completed Year 1.

<sup>4</sup>The courses required in this program satisfy the University Mathematics requirement.

(Letters in brackets indicate minimum prerequisite standing for further study.)

**The changes are:**

1. STAT 2XY0 is added to the courses required for entry program.
2. In Year 2 STAT 2XY0 is added to the list of required courses, and as a result, "Plus 6 credit hours of approved Economics electives" is changed to "Plus 3 credit hours of approved Economics electives".
3. In Year 4, STAT 4630 is deleted from the list of required courses, and as a result, "Plus 9 credit hours of approved Economics electives" is changed to "Plus 12 credit hours of approved Economics electives".

**Statistics-Mathematics Joint Program**

**Program Changes:**

**4.16.5 Statistics - Mathematics Joint Program, Department Code: 005M**

The departments of Statistics and Mathematics offer a joint Honours program for students wishing in depth study in Statistics and Mathematics.

**Entry Requirements:**

To enter the Honours program students must have satisfied the Faculty of Science requirements for entry to the program, and have completed STAT 1000, MATH 1300 and either MATH 1690, or MATH 1500 and MATH 1700 or any equivalent with a minimum grade of "B" in each of STAT 1000 and MATH 1690 (or a "B" average in MATH 1500 and MATH 1700).

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>JOINT HONOURS<sup>6</sup> 120 CREDIT HOURS</b> (comprising courses listed in chart below, and electives)			
MATH 1300 <sup>1</sup> (B), MATH 1690(B) (or MATH 1500 <sup>1</sup> and MATH 1700 <sup>1</sup> (B)), Plus 9 credit hours	STAT 2000 <sup>4</sup> , STAT 2XY0 MATH 2200, MATH 2350, MATH 2600, MATH 2750, MATH 2800 Plus 3 approved credit hours	STAT 3050, STAT 3470, STAT 3480, STAT 3500, STAT 3600 Plus 3 approved credit hours	STAT 4140 <sup>3</sup> , STAT 4520, STAT 4530 <sup>3</sup> Plus 6 approved credit hours

The following courses must be taken in University 1 or Year 2 COMP 1010<sup>2</sup>, STAT 1000 (B) 6 credit hours from the Faculty of Arts, which should include the required "W" course

Plus a total of 30 credit hours from MATH 2400 and any 3000 and 4000 level Mathematics courses, which must include at least 3 credit hours at the 4000 level and must also include MATH 3230, MATH 3740 (or MATH 3760), MATH 3350 (or MATH 3300), MATH 3700 (or MATH 3710), MATH 3400 and MATH 3800

30 Hours

30 Hours

30 Hours

30 Hours

**NOTES:**

<sup>1</sup> MATH 1310 may be taken in place of MATH 1300; MATH 1510, MATH 1520 or MATH 1530 may be taken in place of MATH 1500; MATH 1710 or MATH 1730 may be taken in place of MATH 1700.

<sup>2</sup> May be taken in Year 2

<sup>3</sup> May be taken in Year 3.

<sup>4</sup> STAT 2000 may be taken in University 1.

<sup>5</sup> The courses required in this program satisfy the University Mathematics requirement. (Letters in brackets indicate minimum prerequisite standing for further study.)

**The changes are:**

1. In Year 2, STAT 2XY0 is added to the list of required courses and "Plus 6 approved credit hours" be changed to "Plus 3 approved credit hours".

**Statistics-Actuarial Mathematics Joint Program**

**Program changes:**

**4.16.4 Statistics - Actuarial Mathematics Joint Program, Department Code: 005A**

The Department of Statistics and the Warren Centre for Actuarial Studies and Research offer a joint Honours program for students wishing in depth study in Statistics and Actuarial Mathematics.

**Entry Requirements:**

To enter the Honours program students must have satisfied the Faculty of Science requirements for entry to the program, and have completed at least 3 credit hours in an approved Written English Course, ECON 1200, STAT 1000, STAT 2000, MATH 1300 and either MATH 1690, or MATH 1500 and MATH 1700 or any equivalent with a minimum grade of "B" in all of the above courses each of STAT 1000 and MATH 1690 (or a "B" average in MATH 1500 and MATH 1700).

**Recommended Electives:**

ACT 4050, ACT 4060, Accounting and Finance ACC1100, FIN 2200, FIN 3410; Business Administration GMGT 2000; Economics ECON 1200, ECON 2450, Computer Science COMP 1010; STAT 4630.

UNIVERSITY 1

YEAR 2

YEAR 3<sup>2</sup>

YEAR 4<sup>6</sup>

**JOINT HONOURS<sup>3</sup> 120 CREDIT HOURS** (comprising courses listed in chart below, and electives)

ECON 1200 (B), MATH 1690 (B), (or MATH 1500<sup>1</sup> and MATH 1700<sup>1</sup>(B)), MATH 1300<sup>1</sup>(B), STAT 1000 (B), STAT 2000 (B) and required "W" course (B)  
Plus 3 credit hours from the Faculty of Arts if a 3 credit hour "W" course is taken  
Plus 9 3 credit hours of electives

STAT 2000<sup>4</sup>, ACT 2120, ACT 2020, STAT 2xy0, STAT 3500, ACC 1100<sup>4</sup> (B), FIN 2200<sup>4</sup> (B), MATH 2750 (or MATH 2720 and MATH 2730), MATH 2300<sup>5</sup>  
Plus 15 3 approved credit hours of approved electives

STAT 3050, STAT 3470 (B), and STAT 3480, STAT 3500, STAT 3600, ACT 3130, ACT 3230, ACT 3330, ACT 3530, COMP 1260<sup>7</sup> and MSCI 2150<sup>7</sup>  
Plus 3 approved credit hours of approved electives

STAT 3490 (B), STAT 4140, STAT 4520, STAT 4530, ACT 4140, ACT 4150, ACT 4240, or ACT 4000, ACT 4340, MSCI 2150, COMP 1260  
Plus 3 credit hours of approved electives

---

The following courses must be taken in University 1 or Year 2 COMP 1010<sup>2</sup>, STAT 1000 (B) 6 credit hours from the Faculty of Arts, which should include the required "W" course

---

30 Hours

30 Hours

30 Hours

30 Hours

---

**NOTES:**

<sup>1</sup> MATH 1310 may be taken in place of MATH 1300; MATH 1510, MATH 1520 or MATH 1530 may be taken in place of MATH 1500; MATH 1710 or MATH 1730 may be taken in place of MATH 1700.

<sup>2</sup> ~~COMP 1010 may be taken in University 1 or later in the program.~~

<sup>3</sup> **It is strongly recommended that students take a minimum of 21 credit hours during YEAR 3.**

<sup>4</sup> The courses required in this program satisfy the University Mathematics requirement.

<sup>5</sup> ACC 1100 and FIN 2200 may be taken in Year 2, 3 or 4; however, it is strongly recommended that these two courses be taken in Year 2 or 3. Note that ACC 1100 is the pre-requisite for FIN 2200.

<sup>6</sup> STAT 2000 may be taken in University 1 or Year 2.

<sup>7</sup> MATH 2350 may be taken in place of MATH 2300 **and may be taken in Year 2, 3 or 4.**

<sup>8</sup> **It is strongly recommended that students take a minimum of 27 credit hours during YEAR 4.**

<sup>9</sup> **COMP 1260 and MSCI 2150 may be taken in Year 2, 3 or 4. Note that COMP 1260 is the pre-requisite for MSCI 2150.**

(Letters in brackets indicate minimum prerequisite standing for further study.)

---

The changes are identified with strikethrough (~~deletions~~) and bold underlined text (**additions**) and are a result of the required changes to the Actuarial Mathematics program.

### Zoology

Course to be modified:

#### ZOOL 3000 Evolutionary Biology (3)L

Evolution is the ultimate cause of biological diversity. This course introduces the major questions and research methods in evolutionary biology. Topics include evolutionary genetics, adaptation, speciation, and the reconstruction of evolutionary history. This course is also given in Botany as BOTN 3000. Not to be held with the former 022.400. Prerequisites: BOTN 2460 (or 001.246) or PLNT 2520 (039.252) and any of the following: BOTN 2110 (or 001.211), BOTN 2210 (or 001.221), BOTN 2290 (or 001.229), ZOOL 2320 (or 022.232), ZOOL 2501 (or 022.250F), ZOOL 2600 (or 022.260), or consent of department.

### Courses offered in other Faculties and Schools Acceptable for Credit in Science

Course PHAC 4020 Pharmacology Basics (6) is added to the list of courses offered in other Faculties and Schools Acceptable for credit in Science.

The existing minor in Family Social Sciences in the Faculty of Human Ecology will now be available to students in the Faculty of Science. All courses offered by the Department of Family Social Sciences will be acceptable for credit in the Faculty of Science.

### Program Specific Course Minimum Requirements for Honours and Major Programs

#### **Minimum Requirements - Honours Programs**

**HONOURS – Minimum grade of "C+" required in the following:**

#### **ACTUARIAL MATHEMATICS**

Introductory Courses for all three Actuarial Honours programs  
(Minimum grade of "B" required)

ECON 1200  
MATH 1690 (or MATH 1500 and MATH 1700 or equivalent versions of each)  
MATH 1300 (or equivalent versions)  
STAT 1000  
STAT 2000  
"W" course

**Designated Courses for all three Actuarial Honours programs**

ACT 2120  
ACT 2020  
ACT 3130  
ACT 3230  
ACT 3530  
ACT 4140  
ACT 4150  
ACT 4240  
ACT 4000  
ACT 4340

**Designated Courses for all three Actuarial Honours programs**

(Minimum grade of "B" required)

ACC 1100  
FIN 2200  
STAT 3470  
STAT 3490

**BIOCHEMISTRY PROGRAM**

Biochemistry Honours:

CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370), MBIO 2100, MBIO 2110, CHEM 2380, CHEM 2470, MBIO 3450, MBIO 3460, CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630, CHEM 4700, MBIO 4540

Biochemistry Honours Co-op:

CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370), MBIO 2100, MBIO 2110, CHEM 2380, CHEM 2470, MBIO 3410, MBIO 3450, MBIO 3460, CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630, CHEM 4700, MBIO 4540

**BIOTECHNOLOGY**

CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370), MBIO 2100, MBIO 2110, MBIO 2280, BOTN 2460, CHEM 2380, CHEM 2470, CHEM 3390, MBIO 3410, MBIO 3440, MBIO 3470, PLNT 4330, CHEM 3590, CHEM 4590, CHEM 4620 or CHEM 4630, MBIO 4470, MBIO 4510, MBIO 4570, MBIO 4600, MBIO 4610

**DEPARTMENT OF CHEMISTRY**

The 60 credit hours of required courses

**GENETICS PROGRAM**

BOTN 3460

PLNT 3140  
MBIO 3410  
ANTH 2890  
BGEN 3020

and a project course if taken MIBO 4530 (Micro) or BGEN 4010 (Biochemistry and Medical Genetics)

#### **DEPARTMENT OF MATHEMATICS**

MATH 3230, MATH 3300, MATH 3350, MATH 3400, MATH 3700, MATH 3710, MATH 3760 and MATH 3800.

#### **DEPARTMENT OF MICROBIOLOGY**

MBIO 2100  
MBIO 2110  
MBIO 3010  
MBIO 3410  
MBIO3440  
MBIO 3470  
MBIO 3480  
MBIO 4010  
MBIO 4470  
MBIO 4530  
MBIO 4600  
MBIO 4610

any 3000 or 4000 level Microbiology course taken to fulfill the 15 credit hours of Microbiology

#### **DEPARTMENT OF STATISTICS**

Any course required in the program (required options and electives are excluded)

#### **DEPARTMENT OF ZOOLOGY**

All Zoology courses

#### **PROGRAM SPECIFIC COURSES**

**Minimum Requirements - Four Year Major Programs**

**FOUR YEAR MAJOR – Minimum grade of “C” required in the following:**

#### **BIOCHEMISTRY PROGRAM**

Biochemistry Major:

CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370), MBIO 2100, MBIO 2110, CHEM 2380, CHEM 2470, MBIO 3450, MBIO 3460; two of CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630

Biochemistry Major Co-op:

CHEM 2210, CHEM 2220, CHEM 2280, CHEM 2290, CHEM 2360 (MBIO 2360), CHEM 2370 (MBIO 2370), MBIO 2100, MBIO 2110, CHEM 2380, CHEM 2470, MBIO 3410, MBIO 3450, MBIO 3460; two of CHEM 4360, CHEM 4370, CHEM 4620, CHEM 4630

#### **DEPARTMENT OF CHEMISTRY**

The 54 credit hours of required courses

#### **DEPARTMENT OF COMPUTER SCIENCE**

All courses in Computer Science component of degree

## **DEPARTMENT OF MATHEMATICS**

### **Major**

MATH 1300, MATH 1500, MATH 1700, MATH 1690, MATH 2200, MATH 2350, MATH 2600, MATH 2750, MATH 2800, MATH 3300, MATH 3350, MATH 3400, MATH 3700, MATH 3710, MATH 3740, MATH 3760, and MATH 3800.

### **Applied Major with Options**

MATH 1200, MATH 1300, MATH 1500, MATH 1700, MATH 1690, MATH 2300, MATH 2400, MATH 2600, MATH 2720, MATH 2730, MATH 2800, MATH 3500, MATH 3600, MATH 3700, MATH 3740, MATH 3800, MATH 3810, and MATH 3820.

## **DEPARTMENT OF STATISTICS**

Any course required in the program (required options and electives are excluded)

## **DEPARTMENT OF ZOOLOGY**

All Zoology courses

### **University 1**

Courses to be added to the University 1 course list:

EVDS 1XXX Visual Literacy (3)



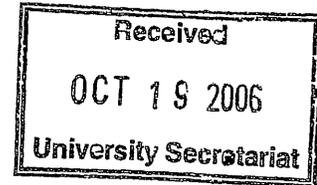
UNIVERSITY  
OF MANITOBA

Faculty of Medicine

Office of the Dean  
Room 260 Brodie  
727 McDermot Avenue  
Winnipeg, Manitoba  
Canada R3E 3P5  
Telephone (204) 789-3557  
Fax (204) 789-3928

October 16, 2006

Mr. Jeff Leclerc  
University Secretary  
313 Admin Bldg.  
Fort Garry Campus



Dear Mr. Leclerc:

Re: Senate Committee Approval for Registration and Licensure of  
Dr. K.A. Pathak Under Section 64 of the Medical Act

The Senate Committee on Medical Qualifications met on Monday, October 16, 2006 to consider the above. The following members were present: Dr. Heather Dean, Chair, Dr. Elizabeth Cowden, Dr. Michael Moffatt and Dr. Alex Chochinov. Dr. W. Pope and Dr. Karen Grant joined the committee by telephone.

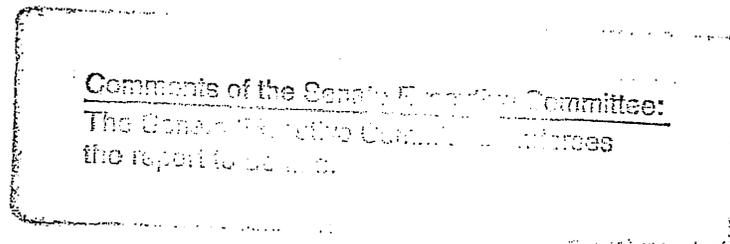
Dr. Pathak is an excellently trained, experienced Head and Neck Oncologist who has received enthusiastically positive letters of reference from senior academic physicians from Nepal, the Sloan Kettering Institute and from Tata. Dr. Pathak has a very strong academic focus.

In view of the above, and a review of his C.V., his letters of reference as well as a personal interview by me on September 22, 2006, the committee unanimously approved Dr. Pathak's registration and licensure under Section 64 of the Medical Act in the area of Surgery.

Thank you for your consideration.

Sincerely,

H. Dean, MD, FRCPC  
Associate Dean (Academic)



Copies to: Dr. W. Rennie  
Dr. W. Pope

## Report of the Senate Committee on Awards respecting Awards

### Preamble

The Senate Committee on Awards (SCOA) terms of reference include the following responsibility:

"On behalf of Senate, to approve and inform Senate of all new offers and amended offers of awards that meet the published guidelines presented to Senate on November 3, 1999, and as thereafter amended by Senate. Where, in the opinion of the Committee, acceptance is recommended for new offers and amended offers which do not meet the published guidelines or which otherwise appear to be discriminatory under Policy No. 419, such offers shall be submitted to Senate for approval." (Senate, April 5, 2000)

At its meeting on November 2, 2006 SCOA reviewed two new award offers and two award amendments, and reports as follows.

### Observation

On behalf of Senate, the Senate Committee on Awards approved and recommends that the Board of Governors approve two new awards and two award amendments as set out in Appendix "A" of the Report of the Senate Committee on Awards (dated November 2, 2006). These award decisions comply with the published guidelines of November 3, 1999, and are reported to Senate for information.

Respectfully submitted,



(or)  
Professor R. Baydack, Chair  
Senate Committee on Awards

Comments of the Senate Executive Committee:  
The Senate Executive Committee endorses  
the report to Senate.

## Appendix A

MEETING OF THE SENATE COMMITTEE ON AWARDS - NOVEMBER 2, 2006

### OFFERS

#### CENTENNIAL SCHOLARSHIP IN PHYSICS

In celebration of its centennial, the Department of Physics and Astronomy has established an endowment fund of \$260,000 to provide both scholarship and bursary support in the undergraduate Physics program.

Three scholarships, each valued at \$1,600, will be offered to undergraduate students who:

- (1) have completed at least one year of full-time study at the University of Manitoba;
- (2) have achieved a minimum cumulative grade point average of 3.5;
- (3) enter or continue in an Honours program in the Department of Physics and Astronomy in the Faculty of Science at the University of Manitoba in the year in which this scholarship is tenable.

Selection criteria shall be based on the highest academic standing among all eligible students at the time of the scholarship offer, as determined by the selection committee. These awards cannot be held concurrently with a Verrall Family Scholarship in Physics.

One scholarship valued up to the remaining available interest (approximately \$700) will be offered as a top-up to the student who receives the C.P. Loewen Family Foundation Scholarship in Physics.

Any funds remaining after all scholarship and bursary offers are made may be used at the discretion of the selection committee to provide travel awards to undergraduate students in an Honours or Major Physics program attending the annual physics or astronomy undergraduate conference.

The selection committee shall be named by the Head of the Department of Physics and Astronomy.

#### CENTENNIAL BURSARY IN PHYSICS

In celebration of its centennial, the Department of Physics and Astronomy has established an endowment fund of \$260,000 to provide both scholarship and bursary support in the undergraduate Physics program.

Two bursaries, each valued at \$1,600, will be offered to undergraduate students who:

- (1) are enrolled full-time in an Honours or Major program in the Department of Physics and Astronomy at the University of Manitoba;

- (2) have achieved a minimum cumulative grade point average of 3.0;
- (3) have demonstrated financial need on the standard University of Manitoba bursary application form.

One bursary valued up to the remaining available interest (approximately \$700) will be offered as a top-up to the student who receives the C.P. Loewen Family Foundation Bursary in Physics.

\*NOTE - In case no eligible applicants come forward for these bursaries, they shall be offered as Centennial Scholarships in Physics to the student entering or continuing in an Honours program in Physics with the next highest standing.

Any funds remaining after all scholarship and bursary offers are made may be used at the discretion of the selection committee to provide travel awards to undergraduate students in an Honours or Major Physics program attending the annual physics or astronomy undergraduate conference.

The selection committee shall be named by the Head of the Department of Physics and Astronomy.

## **AMENDMENTS**

### **H. S. FERNS MEMORIAL LOAN FUND**

Currently the terms of reference for this award state: "the interest from the fund shall provide short-term loan assistance to any University of Manitoba student in temporary financial need. Gifts to the fund shall be capitalized; repayments of the loans shall be available for offer on a 'revolving fund' basis. The selection of eligible student borrowers shall accord with the guidelines established from time to time for The University of Manitoba's student emergency loan funds".

The donor has proposed that the above wording be removed from the current terms of reference, and replaced with:

"The number and value of bursaries will be determined each year, based on the amount of available income from this fund. Bursaries shall be offered to graduate and/or undergraduate students who:

- Are enrolled part-time or full-time in any degree or diploma program at The University of Manitoba;
- Have a record of satisfactory academic achievement which is defined as:
  - (a) for first year students, a minimum entering average of 70 percent (students entering their first year of study at The University of Manitoba on mature student or transfer student status are also eligible for this bursary);
  - (b) for continuing students, a minimum cumulative grade point average of 2.0;

- Have demonstrated financial need on the standard University of Manitoba bursary application form.

Priority in selection shall be given to students whose "assessed financial need" has not been met by other bursaries, such as the UMSU Bursaries, the University of Manitoba General Bursaries, or the Manitoba Scholarship and Bursary Initiative Bursary.

The selection committee shall be named by the Director of Enrolment Services.

#### **UNIVERSITY OF MANITOBA DISTINGUISHED DISSERTATION AWARD**

Currently, the Faculty of Graduate Studies offers one award per Faculty annually to doctoral graduands. At the request of Graduate Studies, the terms of reference will now be changed to state that "Graduate Studies will offer six awards, one in each of the following areas: applied sciences, health sciences, humanities, interdisciplinary sciences, natural sciences, and social sciences". Under current terms, a citation certificate is awarded annually at a luncheon to successful nominees. With the proposed change, a cash prize will now be awarded in addition to the citation certificate.

#### **WITHDRAWALS**

None.

Council on Post-Secondary Education ❖ Conseil de l'enseignement postsecondaire

October 4, 2006

Dr. Richard Lobdell  
Vice-Provost (Programs)  
University of Manitoba  
208 Administrative Building  
Winnipeg MB R3T 2N2



Dear Dr. Lobdell:

**Re: Statement of Intent for: Joint Bachelor of Science in Chemistry and Physics**

The Council on Post-Secondary Education has reviewed the above noted statement of intent submitted by the University of Manitoba.

Please feel free to proceed with developing the full program proposal and submit it to Council for approval.

As you know, approval of the statement of intent does not necessarily mean that the program will ultimately be approved.

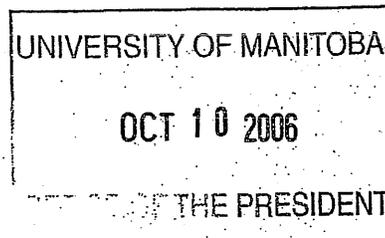
Should you have any questions or concerns, please do not hesitate to contact me at 945-4779.

Sincerely,

A handwritten signature in black ink, appearing to read "S. Deane".

Susan Deane  
Manager, University Relations

c. Sid Rogers



## PRESIDENT'S REPORT: December 6, 2006

My last report to Senate was submitted for its meeting on October 4, 2006. Part A of this report is organized into sections on General, Academic, Research, Administrative, and External matters. Part B contains a list of significant external engagements during the time period of this report.

### I. GENERAL

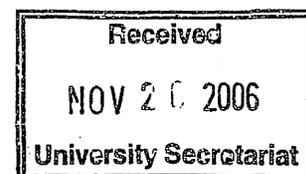
#### 1. Accountability

When the University agreed not to participate in the *Maclean's* University rankings, it emphasized that the decision was taken not because the University (and 23 others which did not participate in the survey) did not want to be accountable. Rather the decision represented a collective criticism of the magazine's methodology, and reaction to a signal from *Maclean's* that there would be no changes forthcoming soon in its ranking methods. The point was also made that the University of Manitoba is continuing to be assessed by external parties that employ methods that are superior to *Maclean's*, and that accountability remains a guiding principle for the University. Our aim has been and continues to be to provide clear and detailed information in a number of areas of interest to our stakeholders. With this in mind, a new website was designed to "package" the data and to provide assessments that are useful to our community.

Within the web pages, accessible from the homepage, our stakeholder groups can find relevant information about the University. Information about our students - their success rates, their learning environment; and their satisfaction; our faculty; our research; our finances; and our contact with the community is contained in 34 graphs, each with an explanatory note. In addition there is a direct link to publications such as the Annual Financial Report, the Annual Report, and the Institutional Statistics Book (IS Book) from the Office of Institutional Analysis.

#### 2. Estimates Meeting

Members of the Council on Post Secondary Education (COPSE) visited the University on October 19, 2006 to review the estimates of operating and capital requirements for 2007/2008. Representing the University were Mr. Terry Sargeant, Chair of the Board of Governors, the President, and the Vice-Presidents. The Vice-Presidents presented an overview of their portfolios, including some challenges, with the Vice-President (Administration) outlining the financial requirements for 2007-08. I concluded by relating the presentations to the strategic plan, *Building for a Bright Future*, and referring to the public and government expectations of the University in the 21st century as referenced in the Plan. I concluded by indicating that there has been momentum along the five priorities in our strategic plan but without adequate funding the momentum is at risk.



The meeting was held in the Richardson Centre for Functional Foods and Nutraceuticals. We pointed out that the facility was an excellent example of a facility and programs which are part of a research-intensive university: multi disciplinary, partnerships with governments and the private sector, undertaking work supported primarily with research grants. The meeting concluded with a tour of the Centre.

### 3. **First Presentation of Research Undertaken by Undergraduates**

On September 18, more than 50 student researchers from a variety of University of Manitoba faculties presented their research projects and competed for prizes in a poster competition sponsored by the Natural Sciences and Engineering Research Council of Canada (NSERC) Prairie Regional Office. The event was organized by Dr. Digvir Jayas, Associate Vice-President (Research), and NSERC Representative for the University of Manitoba. It was the first time undergraduate student research assistants were invited to present their NSERC-funded research in the applied sciences, biological sciences and physical sciences.

More than 300 members of the university community, industry and the general public attended the competition, and they had an opportunity to discuss the projects with the student researchers and their faculty supervisors. The posters were reviewed by 15 judges drawn from the University of Manitoba, industry and the NSERC Prairies Regional Office, and prizes of \$500, \$300, and \$200 were awarded to the top three posters in each category.

Following a presentation on NSERC Partnership Programs by Mr. Alfonz Koncan, NSERC-Prairies Research Development and Promotion Officer, the awards were presented by Dr. Joanne Keselman, Vice-President (Research) at the University of Manitoba, and Vice-President of NSERC.

### 4. **“Building the University of the 21st Century”**

The University of Calgary and the Canadian Institutes for Health Research (CIHR) co-hosted a conference on *Building the University of the 21st Century* on November 12-14, 2006. The purpose of the conference was to address two issues facing universities: first, the rising cost of education and research within an elevated atmosphere of accountability; second, the convergence of diverse disciplines which is creating new fields of inquiry and is blurring the distinction between traditionally-defined disciplines. The themes of the conference were:

- How do universities remain accountable to funders and the public?
- Incentives and impediments for junior faculty wishing to engage in more multi- and inter-disciplinary research and how to promote these interactions.

- Universities and changes needed to move forward for the 21st century.

I participated on a panel addressing accountability, and I was asked to make a 10 minute presentation on universities' perspectives. Other speakers presented the federal, provincial and corporate perspectives.

Those attending the conference were representatives from universities, granting councils and research institutes. Dr. Robert Kerr and Dr. Joanne Keselman were present. Keynote speakers included Peter Calamai, science reporter of the *Toronto Daily Star*, and Jeffrey Simpson, political columnist of the *Globe & Mail*.

## II. ACADEMIC MATTERS

### **Faculty of Agriculture and Food Sciences**

- Dr. Harry Sapirstein, Food Science, was invited, as part of a delegation of Canadian cereal grain scientists, to give a keynote presentation at the 1st International Forum on Cereal Science, Cereal Foods - Cooperation and Opportunities Across Borders, held at Southern Yangtze University, Wuxi.
- Biosystems Engineering M.Sc. student Khizar Mahmood won the "Top Manitoban" submission in the 2006 Sustainable Development Research Competition put on by Engineers Without Borders, the International Institute for Sustainable Development and Manitoba Hydro. The Sustainable Development Research Competition is a nationwide research competition put on by the university chapters of Engineers Without Borders to promote worldwide sustainability and development.
- At the annual meeting of the Canadian Society of Agricultural and Forest Meteorology held in San Diego recently, two Department of Soil Science students were the Campbell Scientific Canada Student Presentation prize winners for their presentations: Aaron Glenn (Ph.D. student) for best oral presentation and Alison Sass (M.Sc. student) for best poster presentation.

### **Faculty of Architecture**

- Department of Architecture and Department of City Planning graduate students, Jessica Roeder, Aynslee Hurdal and Amanda Ross recently won the National Emerging Green Builders sustainable design competition. With sponsorship from the Canada Green Building Council, they will be attending *Greenbuild* in Denver November 15-17 to compete against regional winners from the U.S.A.
- Dr. Sheri Blake's, film, *Detroit Collaborative Design Center...amplifying the diminished voice*, (Sou International Ltd., 2006, 62") was selected to be screened at the United

Nations Habitat, World Urban Forum III, as part of the CineUrbana Film Festival 2006 in Vancouver. Of 53 submissions, 19 were selected for screening.

- Department of Architecture graduate students, Rebecca Loewen, Jennifer Reynolds and Tom Alston, recently finished second in the Ideas Competition open to graduate students of architecture in Canada. Of the 50 entries, 15 were selected to proceed with their proposal. Under the supervision of Professor Neil Minuk, and Anne Cormier of the University of Montreal, the group worked to design innovative housing and submitted a proposed plan of investigation to densify and hybridize the plus 15 walkway system in Winnipeg. The students submitted finished second in this national competition.

## Faculty of Arts

### Books Published

- Dr. George MacLean, Political Studies, *Clinton's Foreign Policy in Russia. From Deterrence to Democratization and Engagement*. Cornwall, England: Ashgate, (2006).
- Dr. Garry Martin and Dr. Joseph Pear, Psychology, *Behavior Modification: What It Is and How to Do It (8th Edition)*. Upper Saddle River, NJ: Pearson Prentice Hall, (2007).
- Dr. Garry Martin, Psychology and Tana Martin, *The Psychology of Curling Made Easy: Curl in the Zone*. Winnipeg: Sports Science Press, (2006).
- Dr. Elizabeth Comack, Sociology, and Gillian Balfour (Eds.) *Criminalizing Women: Gender and (In)Justice in Neo-liberal Times*. Halifax: Fernwood Publishing, (2006).
- Dr. Elizabeth Comack (Ed.) *Locating Law*. Halifax: Fernwood Publishing, (2006).

## Faculty of Dentistry

- Second year dental hygiene students helped make a difference during their 5th Annual "Soup Up Your Smile" outreach event. Using interactive displays, the students shared important oral health messages with inner city patrons at Siloam Mission on Oct. 24, 2006, and with adult English as a Second Language (ESL) and Literacy students at the University of Manitoba's Brodie Center on Oct. 26, 2006
- Dr. Billy Wiltshire, Orthodontics, was recently honoured as one of nine orthodontic educators appointed to the World Federation of Orthodontists Task Force on guidelines for postgraduate orthodontic education. The task force will provide detailed recommendations concerning guidelines for postgraduate orthodontic education. These will assist countries, associations and educational institutions worldwide to develop and improve orthodontic programmes.

## Faculty of Education

- The Faculty is continuing its focus on Aboriginal peoples by providing students and members of faculty opportunities to hear the views of Aboriginal leaders. Grand Chief Dr. Sydney Garrioch and Southern Grand Chief Chris Henderson recently presented a distinguished lecture entitled, "First Nations Aspirations and the Place of Education."
- Carol Hryniuk-Adamov, a Ph.D. student in the Faculty of Education, received a 2006 *Canada Post Literacy Award* for her contributions to literacy education. The awards have become Canada's only national honour dedicated to recognizing grassroots literacy initiatives and celebrating the achievements of both learners and those who have helped them learn to read and write

## Faculty of Engineering

- Dr. Doug Ruth, Dean, was recently awarded the Leadership Award by the Association of Professional Engineers and Geoscientists of Manitoba . Dr. Ruth also accepted on behalf of the Faculty the Award of Excellence in Educational Quality, Innovation & Partnership from Manitoba Aerospace.

## Faculty of Law

- On November 2<sup>nd</sup>, 2006, the Faculty was honoured with a visit from the Hon. Mr. Justice Marshall Rothstein of the Supreme Court of Canada. Mr. Justice Rothstein spoke in the Moot Court Room on Canada's judicial appointment process: From Manitoba Law School to the Supreme Court of Canada.
- Mr. Bruce MacFarlane, Q.C., a former Deputy Attorney General of the Province of Manitoba, has been appointed as a Professional Affiliate in Faculty for the 2006-2007. He will be teaching a course entitled "Miscarriages of Justice".

## Libraries

- Orysia Tracz, Libraries, Collections Management unit, translated another award winning Ukrainian book into English: *The Introduction and Notes of Ukraine and Ukrainians: Historic-ethnographic Album of Ivan Honchar (Selected Plates)*. Kyiv: Ukrainian Centre of Folk Culture "Ivan Honchar Museum" and Oranta Publishers, (2006). The original book won the Grand Prix at the 13th Lviv, Ukraine, Book Fair.

## Faculty of Medicine

- A new website titled [www.can-r.ca](http://www.can-r.ca), was unveiled at the International Infectious Diseases/Medical Microbiology Scientific Meeting. Dr. George Zhanel, Medical Microbiology is the founder and Co-Editor of this website which is the official website of

the Canadian Antimicrobial Resistance Alliance (CARA). It will become the premier website in Canada regarding antimicrobial resistant infections and antimicrobial usage. This website features an internationally renowned editorial board and is supported by Health Canada, the Association of Medical Microbiologists of Canada (AMMI) and the International Center for Infectious Diseases (ICID).

- Dr. Jody Berry, Immunology/Medical Microbiology and Dr. Stefan Wagener, Medical Microbiology received the Knudsen Memorial Publication Award from the American Biological Safety Association. This was an award for submitting the best new publication in the Journal of Applied Biosafety.

### **Faculty of Music**

- Prof. Allen Harrington was fourth out of a field of 144 competitors in the Adolphe Sax competition, the world's most prestigious saxophone performance competition. The competition, named after the inventor of the sax, is held every four years in Belgium for performers under 31 years of age. An international jury of 13 chose 6 finalists. Prof. Harrington is the first Canadian to make the final round and only the second from North America.

### **Faculty of Nursing**

- Dr. Leslie Deener was inducted as a Fellow into the Canadian Academy of Health Sciences (C.A.H.S.) during an official ceremony in Ottawa. Also, at the 14th International Conference on Cancer Nursing in Toronto, Dr. Deener received the Distinguished Merit Award for services to Cancer Nursing from the International Society of Nurses in Cancer Care (I.S.N.C.C.).
- Tracy Scott, a Master of Nursing (Administration) graduate, received the Dean of Graduate Studies Poster Award at the 2006 Canadian Student Health Research Forum for her poster entitled, "The relationship of workplace empowerment and organizational commitment among First Nations and Inuit Health Branch nurses." Dr. Judith Scanlan was second author of the poster presentation.

### **Faculty of Pharmacy**

- The 2006 Faculty of Pharmacy graduating class achieved an overall pass rate of 100% on the Pharmacy Examination Board of Canada (PEBC) licensing exams tied for 1<sup>st</sup>.
- Dr. Mike Namaka has become the first Clinical Assistant in Canada. Dr. Namaka is a specialist in the treatment of multiple sclerosis, and was the first pharmacist to receive dual licensure under the Manitoba Pharmaceutical Association and the College of Physicians and Surgeons, as a Clinical Assistant with delegated prescribing authority.

- Mutasem Ragas-Qalaji a graduate student, received the Association of Faculties of Pharmacies of Canada/Canadian Foundation for Pharmacy (AFPC/CFP) Award for the Best National Poster. The poster describing his research was presented at the AFPC Annual Conference.
- Ms Omolayo Famuyide, 3<sup>rd</sup> year Pharmacy Student recently received the “2006 Commitment to Care Award” in the “Student Leadership” category. The Commitment to Care awards were launched by *Pharmacy Practice* Magazine 14 years ago. These awards recognize the achievements of Canadian pharmacists, technicians, pharmacy students and physicians in a variety of categories.

### **Faculty of Science**

- Dr. Bruce Ford, Botany and Curator of the University of Manitoba Herbarium, has been elected to the Executive Committee of the Board of Directors of the Flora of North America Association, an international groups that seeks to document all the native plants of North America north of Mexico.
- Dr. Tom Booth, Botany, has had a genus of soil chytrids named in his honour. *Boothiomyces* is one of two new genera in the new family *Terramycetaceae*. Soil chytrids are a group of fungi which break down organic matter in particular pollen.
- Dr. Peter King, Computer Science, has been elected a Fellow of the Canadian Information Processing Society in recognition of his work with that body, and in particular the Computer Science Accreditation Council.
- The Murray McPherson Award was granted posthumously to Diane Dowling, Senior Scholar. The award was made by the Manitoba Association of Mathematics Teachers in recognition of Professor Dowling’s contribution to the development of Mathematics Education in Manitoba schools.
- Dr. Jayanne English, Physics & Astronomy, won first prize in the image making competition of the National Radio Astronomy Observatory in New Mexico. The image was that of a majestic gas shell, and represented an enormous, nearly empty, bubble blown into the dusty, gas disk of the Milky Way Galaxy.

### **III. RESEARCH MATTERS**

#### **Honours and Distinctions**

- Dr. Michael Czubryt, Physiology, has been named as the recipient of the 2006 Young Investigator Award from the Canadian Cardiovascular Society. Each year, one award is

given to an outstanding cardiovascular researcher who has been working at a Canadian university or hospital for less than three years.

Dr. Czubryt is a member of the Institute of Cardiovascular Sciences, a joint institute of the University of Manitoba and the St. Boniface General Hospital Research Centre. His lab works with transcription factors – proteins that activate or repress genes – and he is studying their role in energy processes in heart muscle cells, as well as their involvement in heart development in health and disease.

Dr. Czubryt will receive his award during the Canadian Cardiovascular Congress being held in Vancouver from October 21 to 25, 2006.

- On October 18, Distinguished Professor Garry Martin, Psychology, received the 2006 Dr. John M. Bowman Memorial Winnipeg Rh Institute Foundation Award. One of Canada's leading psychologists, Dr. Martin has earned international recognition for his research in the fields of developmental disabilities and sport psychology.

Dr. Martin was one of the first applied psychologists to show that persons with severe developmental disabilities are capable of learning many functional skills if provided with positive learning environments. His work formed much of the foundation of the community living movement in Canada. As a result of his pioneering research, many people with developmental disabilities are now able to lead productive lives in the community. His research has also had a profound impact in the field of sport psychology, producing new strategies for improving the skills and performance of both athletes and coaches.

Dr. Martin is co-author of *Behavior Modification*, widely considered to be the single best textbook in the field. Now in its 7th edition, it is used as a primary text at over 200 universities in 12 countries.

- Dr. Harvey Chochinov, Psychiatry, has been named as this year's winner of the J.M. Cleghorn Award for Excellence in Leadership and Clinical Research presented by the Canadian Psychiatric Association.

This award is dedicated to the memory of Dr. John Cleghorn, an early neuroendocrine researcher, and it recognizes a CPA member who demonstrated excellence in clinical psychiatric research or leadership in advancing clinical psychiatric research in Canada.

Dr. Chochinov, Canada Research Chair in Palliative Care, established the Manitoba Palliative Care Research Unit at CancerCare Manitoba and spearheaded the development of the Canadian Virtual Hospice. His work, which examines ways of preserving dignity at the end of life, has been internationally recognized by the American Academy of Psychosomatic Medicine. Dr. Chochinov was appointed to the Order of Manitoba in 2004, and in July 2006, he was elected as a Fellow of the Royal Society of Canada.

- Dr. Aftab Mufti, Civil Engineering, has been named as the recipient of the Lifetime Achievement Award from the International Institute of FRP (fibre-reinforced polymers) in Construction (IIFC). Dr. Mufti is President of the ISIS Canada Research Network (intelligent sensing for innovative structures), one of Canada's Networks of Centres of Excellence, which is based at the University of Manitoba.

Dr. Mufti has earned an international reputation as a leader in the areas of structural health monitoring and advanced building materials, and the IIFC Lifetime Achievement Award cites his outstanding contributions to the field of fibre-reinforced polymer composites for construction. Dr. Mufti will be presented with the award during the Composites in Civil Engineering 2006 conference being held in Miami in December.

The IIFC was established in 2003 to advance the understanding and application of FRP composites in civil infrastructure, and its membership includes top civil engineers from around the world.

### Grants Received

- Nine University of Manitoba researchers have successfully competed for individual project funding under the National Networks of Centres of Excellence (NCE) Fund:
  - ▶ Dr. Frank Plummer, Medical Microbiology, received \$45,000 for his project, "Immunoregulation and Immunogenetics of HIV-1-Specific Mucosal Immune Responses in HIV-1-Resistant Sex Workers." Dr. Plummer also received \$50,000 for his project, "Epitope Mapping of HIV-Neutralizing IgA Antibodies." These projects are sponsored by the Canadian Network for Vaccines and Immunotherapeutics (CANVAC).
  - ▶ Dr. Dean McNeill, Electrical and Computer Engineering, received \$35,000 for his project, "Data Management and Signal Processing for SHM in Canadian Field Projects." Dr. McNeill's project is sponsored by Intelligent Sensing for Innovative Structures (ISIS Canada).
  - ▶ Dr. Dagmar Svecova, Civil Engineering, received \$30,000 for his project, "Innovative Use of FRP in Timber Structures." Dr. Svecova's project is sponsored by ISIS Canada.
  - ▶ Dr. Aftab A. Mufti, Civil Engineering, received \$25,000 for his project, "SHM of South Perimeter Red River Bridge in Winnipeg." Dr. Mufti's project is sponsored by ISIS Canada.
  - ▶ Dr. Catalin Gheorghiu, Civil Engineering, received \$25,000 for his project, "FOS Condition Monitoring and Modeling of Water Mains." Dr. Gheorghiu's project is sponsored by ISIS Canada.

- ▶ Dr. Douglas Thomson, Electrical and Computer Engineering, received \$55,000 for his project, “Wireless Sensing for SHM.” Dr. Thomson’s project is sponsored by ISIS Canada.
- ▶ Dr. James Friel, Human Nutritional Sciences, and Dr. William Diehl-Jones, Faculty of Nursing, received \$97,000 and \$15,000 respectively for their project, “Bioactive Compounds in Human Milk.” This project is sponsored by the Advanced Foods and Materials Network (AFMNET).
- ▶ Dr. Harold Aukema, Human Nutritional Sciences, received \$30,000 for his project, “Structure-function Properties of Novel Bioactive Peptides.” Dr. Aukema’s project is sponsored by AFMNET.
- ▶ Dr. Peter Jones, Food Science, and Dr. Harold Aukema, Human Nutritional Sciences, received \$45,000 and \$17,500 respectively for their project, “Conjugated Linoleic Acid as a Nutraceutical for Health Promotion in Humans.” The project is sponsored by AFMNET.
- Dr. Jun Cai, Electrical and Computer Engineering, has received an Associate Industrial Research Chair Award from the Natural Sciences and Engineering Research Council of Canada (NSERC). He will hold the NSERC Associate Industrial Research Chair in Teletraffic Analysis, which will receive funding of \$299,045 over three years.

### **Contracts Received**

- A contract was awarded by Genome Alberta to sponsor “Designing Oilseeds quality for Tomorrow’s Market.” The four-year contract (Jun/06 - June/10), which is for \$548,863, is under the direction of Drs. Genyi Li and Peter McVetty, Plant Science.

### **Related Initiatives**

- On October 16<sup>th</sup> and 17<sup>th</sup>, the University of Manitoba hosted the 94<sup>th</sup> Council Meeting of the Natural Sciences and Engineering Research Council of Canada (NSERC). More than 20 NSERC personnel attended, including NSERC President Dr. Suzanne Fortier, members of the NSERC Council, and a number of NSERC staff.

The group was officially welcomed by University of Manitoba President and Vice-Chancellor Dr. Emőke Szathmáry, and the two-day visit included special events hosted by Dr. Joanne Kesleman, Vice-President (Research) and Vice-President of NSERC, as well as Dr. Digvir Jayas, Associate Vice-President (Research) and NSERC representative for the University of Manitoba.

As part of the Winnipeg visit, NSERC presented the 2006 Synergy and Innovation Awards at the Fairmont Winnipeg Hotel on October 16<sup>th</sup>. Seven Synergy Awards for Innovation were presented to research partnerships between Canadian universities and industry, and three Innovation Challenge Awards were presented to Canadian graduate students. A number of students also received Honourable Mention Awards of \$1,000, including University of Manitoba graduate student Behraad Bahreyni, Electrical and Computer Engineering, for his project on micro-machined magnetic field sensors supervised by Dr. Cyrus Shafai.

### **Program Initiatives**

- The first presentation in the 2006-2007 “Get to Know Research at Your University” speaker series was held on Thursday, October 12<sup>th</sup> featuring Dr. John Hanesiak, Environment and Geography. His presentation, titled *Mother Nature’s Fury: Severe Prairie Thunderstorms*, focused on how thunderstorms develop, including the various physical forces that contribute to tornado formation in Manitoba. Close to 70 people attended, including members of the University community and the general public.

## **IV. ADMINISTRATIVE MATTERS**

### **Strategic Resource Planning Process**

- To support the 2007/08 resource allocation process, Deans, Directors and Heads of Administrative Units have been requested to develop their strategic resource plans with a particular focus on the relationship between the units’ priorities and University strategic priorities as communicated in the document “*Building for a Bright Future, a Strategic Academic Plan for the University of Manitoba*”. As part of the review process, the President and Vice-Presidents will meet with the Deans and Directors of academic units to review and discuss the unit submissions beginning in January 2007. Administrative units will meet with the Vice-President to whom they report. Copies of the submissions will be provided to the members of the Budget Advisory Committee to assist them in fulfilling their role of advising on the University’s operating budget and related resource allocation issues.

### **Pandemic Planning**

- The Pandemic Planning Steering Committee is continuing its work developing institutional policies, guidelines and a communications plan related to a presentation being planned early in 2007 to Deans, Directors and Administrative Units during which a template will be provided for developing unit plans within the institutional framework.

## **University of Manitoba Community Clean-Up Day**

- The annual community clean up day was held on October 17, 2006. The University's sponsorship of this event allowed student groups to participate in a fund-raising initiative while at the same time helping to beautify the campus. A total of 75 students collected 87 bags of garbage and recyclables. In return for their efforts, \$1,195 was provided by the University to the participating student groups. Physical Plant supplied and collected the filled garbage bags. The Clayton H. Riddell Faculty of Environment, Earth and Resources, University of Manitoba Recycling and Environmental Group (UMREG) and the Waste Prevention Office also participated.

## **Information Services and Technology**

- Microsoft recently announced the release of the next version of Internet Explorer Web Browser (IE7). IST has recommended that users not install Internet Explorer 7 as the administrative systems vendor, SCT Sunguard, cannot support IE7 on Aurora (Finance and Student) at this time.

## **Financial Services**

- Tri Council (CIHR, NSERC and SSHRC) auditors were on campus for a monitoring visit in October. Preparations are underway for a CFI monitoring visit in November.

## **Ancillary Services**

- Special Functions and Security Services in conjunction with the Manitoba Liquor Control Commission conducted seven University of Manitoba Safe Alcohol Function Education (UMSAFE) training sessions in August and September for students.
- Pharmacy Care Days clinics resumed with Cholesterol on September 21, Blood Pressure on October 19 with Diabetes planned for November 22.
- The outreach team for the Medical Information Line for the Elderly (MILE), coordinated by University Pharmacy, gave five presentations in September and four in October. Calls to the line have also increased averaging fourteen per day.
- The University is currently reviewing proposals from potential food services providers.

## **Physical Plant**

- Status of Building Projects:
  - **EITC** – Renovation work in Engineering I is complete on all Levels. Landscaping is also complete.

- **Pharmacy (Apotex Centre)** - All piling is complete. Installation of concrete pile caps is 85% complete. Installation of rigid insulation, waterproofing and drain tile on/at basement foundation walls is proceeding as wells are being poured. The second and third sections of basement foundation wall casts are in place. This will account for approximately 60% of perimeter foundation walls.
  - **Aboriginal Student Centre** - Tender submissions are under review.
  - **Remote Library Storage Building** - Tender submissions are under review.
  - **Buller Building Redevelopment** - window replacement, HVAC, sprinkler system, electrical and firestopping is underway. Phase one completion is slated for mid- December.
  - **Welcome Centre** - Final Design is complete and the project should be ready for tender in early 2007.
  - **Classroom Upgrading** - All 2006/07 projects are complete. Eleven teaching/technology projects are proposed for 2007/2008.
- The University received a \$15,000 grant from Manitoba Conservation's Waste Reduction and Pollution Prevention Fund for the purchase of a wood chipper. The chipper will enable the University to reduce its organic waste sent to landfill by an estimated 100 metric tonnes. Physical Plant will utilize the wood chip mulch on campus grounds.
  - A certificate of recognition was received from Phillip's Lighting in recognition of the ongoing commitment to use low mercury, energy efficient T8 lamps. Phillip's is an international company headquartered in the Netherlands and known as one of the top performing corporate sustain ability companies in its sector.

## **Human Resources**

- Luncheons were held to celebrate the Anniversary Awards for 10, 30, 35 and 40 years at both Bannatyne and Fort Garry Campuses. A total of 430 individuals were invited to be recognized for their contributions to the University since their initial appointments.
- Preliminary dates for the Employment Equity census are set for the week of November 20-24, 2006. The census requires 95% participation in order to meet the requirements of the Federal Contractors' Program.
- Collective Bargaining has started with AESES/Security Services and this starts the new round of collective bargaining with all 8 bargaining units up for negotiation in the next 12 months.
- Grant McCaughey, Director, Environmental Health and Safety office, has been nominated by both the American Industrial Hygiene Association (AIHA) and the

Association of Professional Engineers and Geoscientists of Manitoba (APEGM) to serve on the Minister of Labour's Health and Safety Advisory Council.

- Environmental Health and Safety Office developed a two hour safety orientation course.

### **Smart Park**

- MERLIN (Manitoba Education Research Learning Information Networks) moved into its space at 135 Innovation Drive on September 29. MERLIN, associated with the Department of Energy, Science and Technology, facilitates the delivery of technology services to the education community across Manitoba.

## **V. EXTERNAL MATTERS**

### **Special Events**

- The Barbara Burns Food Innovation Laboratory in the Faculty of Human Ecology was dedicated on September 14, 2006. The renovation of the laboratory, which will be used by students and faculty in Human Ecology as well as those in the Richardson Centre for Functional Foods and Nutraceuticals, was made possible by generous donations from the Burns family.
- Clayton H. Riddell and members of his family toured the Clayton H. Riddell Faculty of Environment, Earth, and Resources on October 20, 2006, then attended a dinner hosted by President Szathmáry at Chancellor's Hall.

### **Alumni Affairs and Alumni Association Inc.**

- The Alumni Association welcomed hundreds of alumni home for Homecoming 2006 from September 13-17. Some highlights included 2,500 fans cheering on the Bisons during the Homecoming game victory, a well-attended music concert, and a banquet. There were 41 class reunions held during the Homecoming weekend. In addition, 36 graduates plus guests attended the President's Luncheon held in honour of the Classes of 1936 and 1946.
- The Alumni Association attended a reception in New York for alumni of Canadian universities, held on October 5. In addition, the Association sent invitations to alumni in the Seattle area to promote a Canadian university alumni event on October 6.

### **Public Affairs**

- Public Affairs, with the Office of Institutional Analysis and Information Services and Technology, created a new Accountability website for the University of Manitoba. The

site presents data on students, faculty, research, finances, and characteristics of the university community. Data are presented in a user-friendly format featuring graphs and accompanying text.

- Public Affairs developed new print ads launched in the *Globe and Mail's* "University Report Card" magazine of October 31, 2006. The full-colour ads showcase teaching and learning, research and community outreach excellence at the University of Manitoba. All feature the *One University. Many Futures.* theme.

### **Government Relations Office**

- In conjunction with the Faculty of Science, Department of Chemistry, the Government Relations Office has secured \$555,000 for the Instrumental Laboratory for Bioanalysis and Chemical-Environmental Analysis. In addition, efforts in support of the Centre for Aboriginal Health Education have resulted in the unit's receiving \$50,000 of funding from Western Economic Diversification.
- The House of Commons Standing Committee on Finance recently held pre-budget consultations. The University of Manitoba's written submission was sent in to the Committee in early September and a presentation was made to the Committee by Dr. Szathmáry on October 5, 2006 in Portage la Prairie. She was accompanied by Associate Vice-President (External) John Alho.

### **Development and Advancement Services**

Total fundraising as at November 6, 2006 is \$10,024,124

- David and Ruth Asper, graduates of the University, presented a gift of \$500,000 in support of student athletes and graduate students. The Bison Football program will receive \$250,000 to be allocated to the David Asper Bursary for Bison Football, and \$250,000 will be added to the Ruth Asper Bursary to support students in the Master of Science in Exercise and Sport Science
- Long-time donor, Stewart Pugh left a \$900,000 bequest to the University of Manitoba. Approximately \$600,000 was designated as an unrestricted gift to the libraries, and \$300,000 was directed towards bursaries in the Faculty of Agricultural and Food Sciences. Mr. Pugh was a former Associate Director in the Elizabeth Dafoe Library, and has been a strong supporter of the Libraries. His gift will be used to support the renovations to Archives & Special Collections.
- A planned giving insert of *Planning Matters* will be included with the December edition of *On Manitoba*. This will bring planned giving to the attention of over 120,000 alumni and friends of the university as opposed to our regular mailings that reach around 9,000 people.

- The Canadian Dairy Commission made a gift of \$200,000 in support of a scholarship program in the Faculty of Agricultural and Food Sciences. The fund, which has been matched by the Manitoba Scholarship and Bursary Initiative, will support Masters and Ph.D. students pursuing careers in the agri-food sector, in particular those related to dairy science and the dairy industry.
- The Manitoba Pharmaceutical Association Fund made a gift of \$122, 500 to the Pharmacy Building Fund in support of the Apotex Centre.
- The Winnipeg Commodity Exchange has donated \$116,575 to the Faculty of Agricultural and Food Sciences in support of graduate fellowships in the departments of agribusiness and agricultural economics. The fellowships commemorate the key economic role the organization has played in Winnipeg and Canada, particularly in the grains and oilseeds sector. Recipients will be honoured with the title of Winnipeg Commodity Exchange Fellow.

#### **External Relations on Bannatyne (EROB )**

- The Faculty of Dentistry partnered with the Manitoba Dental Association on Oct. 21 to provide a free day of dental care to the public. Over 125 dentists, dental hygienists, dental assistants and clinic support staff volunteered their time and expertise to offer dental care to people who would otherwise not be able to afford a visit to a dentist's office. The community event was held in the Faculty of Dentistry's state-of-the-art, 100-dental-chair clinic. In total, 344 people received a wide range of dental services, including cleanings, fillings, extractions, and simple denture repairs.
- Dr. J. Dean Sandham hosted The Faculty of Medicine Homecoming Breakfast which took place on Saturday, September 24<sup>th</sup>. Over 200 medicine alumni and guests attended to celebrate their alma mater. In addition six classes held reunions during Homecoming

**PART B - Notable Events (External)**  
**Emőke J. E. Szathmáry**  
**Monday, September 18 - Thursday, November 16, 2006**

---

**Monday, September 18, 2006**

- Attend Manitoba Chambers of Commerce Breakfast featuring keynote speaker Premier Gary Doer
- Bring greetings at the Faculty of Law's reception in honour of the Pitblado Scholars

**Tuesday, September 19, 2006**

- Provide interview to Mr. Nick Martin, *Winnipeg Free Press*.
- Attend ceremony conferring the papal Knighthood of St. Gregory the Great on Dr. John Stapleton, former Rector, St. Paul's College

**Wednesday, September 20, 2006**

- Telephone meeting with Honourable Diane McGifford, Minister of Advanced Education and Literacy

**Thursday, September 21, 2006**

- Telephone meeting with Mr. Sid Rogers, Secretary, Council on Post-Secondary Education (COPSE)
- Meet with University benefactor

**Friday, September 22, 2006**

- Meet in Grand Forks, ND with Dr. Charles Kupchella, President, and Dr. Peter Alfonso, Vice-President (Research), University of North Dakota along with Dr. Joanne Keselman, Vice-President (Research) regarding research collaboration

**Tuesday, September 26, 2006**

- Present remarks at Friends of the Canadian Institutes of Health Research Reception and Dinner in honour of Dr. Henry Friesen, and Dr. Joe Martin, Dean of the Harvard Medical School, and recipient of the first Henry G. Friesen International Prize in Health Research, in Ottawa

**Thursday, September 28, 2006**

- Host reception for 2005-2006 Teaching Award recipients at 37 King's Drive

**Friday, September 29, 2006**

- Present remarks at a memorial service for Dr. Joan Townsend, Professor Emeritus, Anthropology

**Friday, September 30, 2006**

- Attend dinner as guest of Dr. Diane Cox, University of Alberta, and recipient of the Founders' Award, Canadian College of Medical Geneticists

**Monday, October 2, 2006**

- Meet with Sid Rogers, Secretary, Council on Post-Secondary Education

**Tuesday, October 3, 2006**

- Host reception at 37 King's Drive in honour of student athletes who were named RBC Academic All Canadians for 2005-06

**Wednesday, October 4, 2006**

- In Ottawa, accompanied by John Alho, Associate Vice-President (External) and by Dr. Digvir Jayas (two meetings only), to meet with
  - Leonard Edwards, Deputy Minister of Agriculture and Agri-Food
  - Laurie Throness, Chief of Staff and Chad Shaver, Special Assistant to the Honourable Chuck Strahl, Minister of Agriculture & Agri-Food Canada
  - Rod Bruinooge, M.P. (Winnipeg South)
  - Deborah Young, Policy Advisory to the Honourable Jim Prentice, Minister of Indian Affairs and Northern Development
- Attend New Lives portrait Exhibition, in honour of the 50<sup>th</sup> Anniversary of the Hungarian Revolution, at the National Arts Centre, Ottawa.

**Thursday, October 5, 2006**

- Attend 1<sup>st</sup> Annual Aboriginal Educators Awards Banquet, Winnipeg

**Friday, October 6, 2006**

- Make presentation to House of Commons Standing Committee on Finance Pre-budget consultations, in Portage la Prairie

**Wednesday, October 11, 2006**

- Telephone meeting with Claire Morris, President, Association of Universities and Colleges in Canada
- Host reception at 37 King's Drive for recipients of Entrance Scholarships and their guests

**Thursday, October 12, 2006**

- Provide interview to Richard Cloutier, CJOB radio reporter
- Present remarks at the Aboriginal Business Education Program (ABEP) 2006 Excellence in Aboriginal Business Leadership Award Dinner

**Friday, October 13, 2006**

- Meet with Czech Ambassador, Mr. Pavel Vošalik and Milos Veleminsky, Dean of Health and Social Studies, South Bohemian University, along with Dr. James Dean, Interim Executive Director, Office of International Relations
- Present remarks at a luncheon celebrating the 10<sup>th</sup> Anniversary of the Institute of Cardiovascular Sciences

**Saturday, October 14, 2006**

- Host and present remarks at University of Manitoba Retiree's Association Reception
- Present remarks at the India Canada Culture and Heritage Association honouring Dr. Naranjan Dhalla, Founding Director of the Institute for Cardiovascular Sciences, with a Lifetime Achievement Award

**Sunday, October 15, 2006**

- Attend dinner in honour of Dr. Kevin Patterson, alumnus and past member of the Northern Medical Unit, on the occasion of the launch of his new novel entitled, *Consumption*

**Monday, October 16, 2006**

- Bring greetings to the 94<sup>th</sup> meeting of the Natural Sciences and Engineering Research Council (NSERC)
- Attend luncheon to celebrate the 94<sup>th</sup> meeting of the Natural Sciences and Engineering Research Council (NSERC)
- Attend the Natural Sciences and Engineering Council 2006 Synergy and Innovation Awards Dinner and Awards Presentation

**Tuesday, October 17, 2006**

- Attend luncheon to celebrate the 94<sup>th</sup> meeting of the Natural Sciences and Engineering Research Council (NSERC)
- Present remarks at Evening of Excellence

**Wednesday, October 18, 2006**

- Provide remarks and host Convocation dinner for Honorary Degree recipients

**Thursday, October 20, 2006**

- Present with the Vice-Presidents and the Chair of the Board of Governors, the University's Estimates of Costs for providing no more than the current programs of the University in 2006-07, to the Council of Post-Secondary Education.

**Friday, October 20, 2006**

- Attend meeting of the Association of Universities and Colleges in Canada (AUCC) First Nations University Review Committee, in Ottawa
- Host and present remarks at dinner in honour of Dr. Clay Riddell, University benefactor

**Sunday, October 22, 2006**

- Present address at the Commemoration of the 50<sup>th</sup> Anniversary of the 1956 Hungarian Uprising, Winnipeg

**Monday, October 23, 2006**

- Present remarks at the Canada Merit Scholarship Reception, Chancellor's Hall
- Present remarks at the Faculty of Medicine's Welcome Dinner for new faculty

**Tuesday, October 24, 2006**

- Telephone meeting with Dr. Paul Cappon , President and CEO, Canadian Council on Learning
- Attend President's Welcome Reception at the Association of Universities and Colleges in Canada (AUCC) at its Semi Annual Meeting in Ottawa

**Wednesday, October 25, 2006**

- Attend biannual business meeting of the Association of Universities and Colleges in Canada (AUCC), in Ottawa
- Attend reception in honour of recipients of Scotia Bank and AUCC Awards of Excellence in Internationalization

**Thursday, October 26, 2006**

- Attend meeting of the Association of Universities and Colleges in Canada (AUCC) Standing Advisory Committee on University Research, in Ottawa
- Present the Wightman Award to Dr. Allan Ronald, Distinguished Professor Emeritus of Medical Microbiology, at the Gairdner International Awards and Wightman Award Dinner, in Toronto

**Monday, October 30, 2006**

- With the Vice-Presidents, meet with members of the Engineering Accreditation Review Committee
- Attend lunch with members of the Engineering Accreditation Review Committee and members of the Faculty of Egnineering

**Tuesday, October 31, 2006**

- Lunch meeting with University benefactor, Winnipeg

**Wednesday, November 1, 2006**

- Present remarks at the 140<sup>th</sup> Anniversary Celebration of St. John's College
- Attend semi annual meeting of the John W. Dafoe Foundation Board, Winnipeg

**Friday, November 3, 2006**

- Meet with The Honourable Charles Strahl, Minister of Agriculture and Agri -Food and Minister for the Canadian Wheat Board, along with Mr. John Alho, Vice-President (External) and Dr. Digvir Jayas, Associate Vice-President (Research)

**Saturday, November 4, 2006**

- Present remarks at the IODE Jon Sigurdsson Chapter 2006 Scholarship Presentations
- Present remarks at the Bison Women's Volleyball Endowment Fund Dinner in honour of T.D. "Dave" Einarsson

**Sunday, November 5, 2006**

- Attend St. John's College Convocation Ceremony as member of the platform party

**Monday, November 6, 2006**

- Present remarks at the USAID announcement regarding HIV/AIDS research in India
- Present remarks at the Faculty of Agricultural and Food Sciences Centenary Reception

**Wednesday, 8 November, 2006**

- With Vice-Presidents, meet with members of Pharmacy Accreditation Review Committee

**Friday, November 10, 2006**

- Present remarks at the University of Manitoba Reception for Alumni, in Toronto

**Saturday, November 11, 2006**

- At half time during the Hardy Cup Football game, receive cheque from David and Ruth Asper, in support of David Asper Bursary, Bison Football, and Ruth Asper Bursary for students in the Master of Exercise and Sports Science program in the Faculty of Physical Education and Recreation Studies
- Present Hardy Cup, with Premier Doer, to the winner of the CIS football game between the University of Manitoba Bisons and the University of Saskatchewan Huskies

**Sunday, November 12, 2006 - Tuesday, November 14, 2006**

- Attend "Building the University of the 21<sup>st</sup> Century" Conference in Banff, Alberta

**Tuesday, November 14, 2006**

- Make a presentation at the morning session of "Building the University of the 21<sup>st</sup> Century" and participate in a panel discussion on, "How universities remain accountable to funders and the public"

**Thursday, November 16, 2006**

- Present the State of the University address as keynote speaker at the Winnipeg Chamber of Commerce luncheon.

**ANNUAL PROGRESS REPORT**  
*(as of September 2006)*

**BUILDING FOR A BRIGHT FUTURE**

**A Strategic Academic Plan for the University of Manitoba**

**The Plan**

The Board of Governors and the Senate approved *Building for a Bright Future* in June 2003. The Plan outlined five institutional priorities for success:

1. Provide Access to an Exceptional Education
2. Attract and Retain the Best
3. Be a Centre for Research and Graduate Education that Makes a Difference to our Province, our Nation and our World
4. Provide the Human, Physical and Technological Infrastructure Necessary for Learning and Research
5. Be at the Centre of our Community: On Manitoba

Each priority is accompanied by challenge statements which outline approaches to be taken to assist in addressing each priority.

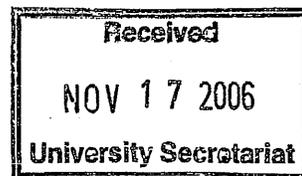
**Progress Reports.**

*Building for a Bright Future* specifies that at the end of the 2006-07 academic year, the President will undertake a comprehensive evaluation of the progress made towards the attainment of the goals that address the challenges in the plan. In addition, the President was requested to report annually to Senate and the Board of Governors on the progress made towards the achievement of the plan. This report is the third of the annual reports that will be submitted.

**Format of the Progress Report.**

Each faculty, school and administrative unit submitted reports on the progress made at the unit level in addressing the five priorities. This report includes some examples from faculty and school reports and from the vice-presidents for the units reporting to them. These provide an overview of initiatives taking place at the unit level. The initiatives are listed in the following order:

- Faculties and Schools, and the Libraries
- Office of the Vice-President (Academic) and Provost
- Office of the Vice-President (Research)
- Office of the Vice-President (Administration)
- Office of the Vice-President (External)



## Administrative Systems

During the past year significant progress was made in the implementation of new administrative systems. These systems impact on virtually every aspect of the University and on the five institutional priorities outlined in *Building for a Bright Future*. Therefore the systems are not specifically referenced in the following report. The systems are:

- AURORA financial management system
- AURORA student information system
- VIP human resources system
- CV management system (academic record system)
- Research Management System.

While the format of this report is not meant to record acknowledgements, an exception is being made with reference to administrative systems. Appreciation is extended to all staff who are directly or indirectly involved with the implementation, and to those who are impacted by the new systems. As is the case with new systems, it has not been “easy going” and the tremendous commitment to the implementation and understanding of the new systems are acknowledged.

## Responses from the Units

### I. Provide Access to an Exceptional Education

#### *Agricultural and Food Sciences*

- The Faculty has introduced minors in the Bachelor of Science program in the areas of Soil Science, Entomology, Food Science and Plant Biotechnology.
- Three new University 1 courses have been added to the Faculty 's offerings - courses that were new in September 2005 were “Food Safety Today and Tomorrow” and “World Food Issues and Policies”. Planned for September 2006 is “World of Bugs”.

#### *Architecture*

- The Faculty has received permission from COPSE to undertake the detailed development of a proposed new undergraduate degree, Aboriginal Design and Planning. The degree is intended to be a professional accredited degree (Canadian Institute of Planners). It has been widely supported in the aboriginal communities, and if approved for implementation will be the first of its kind in North America.
- The Faculty has taken a lead role in the development of New Media Programming, including the hosting of a major New Media Symposium in November 2005 and assisting in the development of a New Media strategy. The

Director of New Media is seconded from the Faculty. There is as yet no formal definition of “new media”, but it refers to the convergence of music, art, and design enabled by computer and engineering technology. Digital media is interactive, and expands greatly the ability to store, create, and transmit information - and as such, it mirrors in digital form universities’ mandates to preserve, advance and communicate knowledge. New media also affords great opportunity to transfer knowledge to society in commercializable form.

### *School of Art*

- Art Without Walls” – a travel study course to New York City for an intensive course in contemporary and historical art was offered in 2006 for the first time. The enthusiasm generated by this initiative demonstrates the interest in intensive study options, and for opportunities to experience focused exploration in significant centers of contemporary art.
- The School of Art Students’ Association (SOFASA) has developed the “Murals in the Tunnels” initiative, which has been approved by the students. UMSU is accepting proposals from School of Art students to paint murals in many of the underground tunnels in order to beautify the campus and expose student creativity. This will give School of Art students an opportunity to connect with the larger University community and expand their venues of artmaking.

### *Arts*

- The Faculty of Arts continued to expand opportunities for students in international and other cultural exchanges. The Department of German and Slavic Studies joined the Four-University Canadian consortium to enhance student exchange with the University of Freiburg, Germany. The Department of Native Studies offered the Baffin Island (Pangnirtung) Summer School and Anthropology & French, Spanish and Italian cooperated in offering the Winter term student exchange with Universidad Latina de America for study in Mexico.
- Arts’ Teaching Excellence Committee developed the terms of reference for the Sessional Instructor Award for Teaching Excellence. This award is designed to recognize the significant contribution to teaching and learning by sessional instructors throughout the Faculty. The first award will be presented in the 2006-2007 academic year.
- A number of exceptional and innovative travel-study programs have been developed. For example the Women’s Studies Program offered a program in Nicaragua that allowed students to work with local women’s community groups and organizations. The experience offers participants mutual understanding and cross-cultural learning. This year’s program had 23 participants representing universities from Manitoba to the Maritimes.

- Arts worked with Science and Human Ecology to craft an undergraduate curriculum in Interdisciplinary Health, which offers a unique opportunity for students to integrate coursework and experience in health-related areas that they can apply towards entering a health-related profession upon graduation.

### *Dentistry*

- First year students purchased laptops which were loaded with Vital Source software, giving them access to 59 digital textbooks. The electronic format makes it easier to do research for classes and saves students having to purchase expensive textbooks. Faculty also make use of the software in preparing lectures e.g. use of photos from the 'textbooks'. In addition a virtual curriculum, pan-faculty wireless access and cutting edge technology in lecture/seminar rooms have been introduced.

### *Education*

- The Faculty continues to make efforts to attract and provide access to Aboriginal students. Examples are: the Faculty continues to support in conjunction with the ACCESS office, a series of workshops called Destination Education for Aboriginal and minority students; a new cohort M.Ed. program has been negotiated with Manitoba First Nations Education Resource Centre; the Aboriginal Education Student Recruitment Task Force held one of its meetings at the Manitoba Métis Federation offices for the purposes of visibility and familiarization, and the Faculty also met at the Manitoba First Nations Resource Centre.
- The Faculty is now planning a major review of the Bachelor of Education program which will begin in January 2007.

### *Engineering*

- A Minor in Music has been introduced for engineering students who also have an interest in Music. The minor consists of six courses, of which five are additional to required courses in a given engineering program.
- With the opening of Building 2 of the Engineering and Technology Complex (EITC), the way in which teaching is approached has changed. Some academic staff are now using tablet PCs. The advantage is that the entire lecture, including all notations that the professor makes, a voice recording of the professor, the students' questions and the professor's responses are available electronically to the students. This obviates the need for classroom note taking and greatly facilitates interaction between the instructor and student.
- EITC has resulted in bringing engineering and computer science closer together. For example, a team made up of both computer science and engineering students recently won the International Unmanned Vehicle Design Competition.

*Clayton H. Riddell Faculty of Environment, Earth, and Resources*

- An integrated field course to enhance learning opportunities for students, is being developed.

*Extended Education*

- The Division is working with University 1 to develop learner supports for students on probation, students studying at a distance (i.e., distance education students and students studying internationally). The target date for the pilot test of the first version of the online (WebCT) U1 Start Book/orientation, a project led by Distance and Online Education instructional designers and University 1 student advisors, is December 2006, with full implementation expected for April 2007.
- The feasibility of developing an Integrated Studies Degree, targeted to adult learners, through Extended Education and in cooperation with other faculties, e.g. Arts, is being considered. Course delivery would be primarily in the evening.

*Graduate Studies*

- A "standard" format for a graduate program review visit has been introduced. To date, 30 departments have completed their graduate program(s) review, 14 are in progress, and 2 have just been initiated.
- Terms of Reference for the Travel Award Fund have been revised to be more inclusive. The fund received 216 travel award applications. Of these, 174 awards were funded (81% success rate), disbursing \$114,750.
- Revised admissions letters have been developed and consideration is being given for the "re-centralization" of applications to the Faculty of Graduate Studies. (Currently they are forwarded to departments for processing).
- Funding from the Province for the Manitoba Graduate Fellowships was doubled resulting in 47 new awards and 53 continuing awards. This has greatly enhanced the Faculty's ability to provide access to an exceptional education.

*Human Ecology*

- The new Food Industry Option in the Human Nutritional Sciences Program is a partnership with international, national and local food companies. The Option offers students a period of work in industrial facilities. There students continue learning by seeing at work how industry applies its understanding of the chemical and physical properties of food, and food components that determine the nutritional and health benefits of the resulting food products. As well as they

learn understanding of food quality as it relates to consumer access to a food supply that promotes health.

- The family social sciences minor has been designed to give students of departments other than Family Social Sciences, including those outside the Faculty of Human Ecology, insight into the family, and community-related behaviours of individuals. Topics include family financial management, health across the lifespan, family violence and conflict resolution, and community development. The minor is intended to complement both arts and science based programs.

#### *I.H. Asper School of Business*

- Senate approved the proposal for a Co-op Program and student placements will start in May 2007.
- The Continuous Improvement Committee was established as a standing committee of Faculty Council. The Committee has two basic functions: first, monitoring activities and making students and faculty members aware of improvements that have been carried out; and second, identifying areas where new improvements are warranted, and making recommendations on these.

#### *Law*

- The Aboriginal Recruitment Task Group commissioned the creation of a video aimed at encouraging Aboriginal youth to start thinking about university while still in junior high school. Copies of this video will be distributed throughout the Province and will be supported by additional material about legal education and the profession.
- In 2005-2006, a Student Services Office was created to provide assistance in the areas of admissions, student aid and professional development. This office is being expanded and will be fully operational by the Fall of 2006. It is responding well to what was the highest priority identified by students during the development of the Faculty's strategic plan.

#### *Libraries*

- The Libraries participated in the latest initiatives of the Canadian Research Knowledge Network (CRKN) aimed at increasing access to electronic resources in the social sciences and humanities. New resources now available to the University of Manitoba community include ARTstor Digital Library, Eighteenth Century Collections Online, the Sage Journal Collection, and Alexander Street Press Core Collections featuring such components as British and Irish Women's Letters and Diaries, Classical Music Library, Latino Literature: Poetry, Drama and Fiction, and North American Theatre Online.

- The number of full-text electronic journals made available to users through the Libraries increased to almost 20,000. The electronic format provides students and researchers with more access to information, around the clock, and at their desktops. Access to ebooks and etexts has also been expanded through the purchase of Dekker Encyclopedias, Annual Reviews and an additional 3,548 ebooks through netLibrary. Links to approximately 100,000 ebooks are now available in the Libraries' BISON catalogue.
- The Information Literacy Program is expanding. Nine librarians are actively pursuing information literacy initiatives with faculty in nine disciplines. The Information Literacy content for two new University 1 level courses in the Textile Sciences was completed and the redesigned courses were delivered. Plans are underway to extend Information Literacy into 2<sup>nd</sup>, 3<sup>rd</sup> and graduate level courses. In addition, the Libraries received a \$24,600 grant to develop an information literacy program for international students.
- The number of electronic reserve documents accessed this year rose to 184,000, an increase of 81% over 2004-2005. Improvements in software and documentation for faculty are responsible for the increase.
- Use of RefWorks, the web-based bibliography and database manager that was made available campus-wide last year, has increased by a dramatic 200% this year. Undergraduates account for over half the use of this service. An enhancement, RefShare, that allows users to share their files with others was added to the subscription this year.

### *Medicine*

- Working in healthcare teams is an essential strategy to improve quality of care. Professionals rarely are educated together but are expected to work in teams on graduation. The Faculty initiated a project for shared educational opportunities for students in other health professions. The demonstration project was led by the Deans of Medicine, Dentistry, Pharmacy, Nursing, the Director of the School of Medical Rehabilitation, the Senior Medical Officer of the Winnipeg Regional Health Authority, and funded by industry. Students in these faculties in their clinical years participated in this extracurricular project on Saturdays. The students were assigned to multidisciplinary teams for patients with chronic illness. They followed these patients to assess the impact of the system and the processes on individuals. Students were mentored by physicians responsible for the patient's care. Students were given 31-day sessions of education and small group work. The focus of this interdisciplinary approach is to improve the quality of health care. The teams provided reports to the regional health authority, and the two best teams will be sending members to the Institute for Healthcare Improvement Collaborative for Medical Schools (IHI) which will be held at Vanderbilt. In addition, the units involved in the project are enrolled in the IHI collaborative for Faculties of Medicine to improve teaching quality and safety in

healthcare. The University of Manitoba is the only Canadian school in this initiative.

### *Music*

- As part of the multi-year Manitoba Alive project, an On-Line Guest Lecture Series was organized, the most prominent being *The BIG APPLE ...online* which was a day-long workshop featuring six outstanding Jazz musicians and educators from New York City. Each guest artist presented an hour-long session that included performances, lectures and a question and answer period. This is an innovative master class series that uses existing technology to provide interactive distance education in musical techniques.

### *Nursing*

- The revised undergraduate nursing program was approved by Senate and subsequently implemented in 2005-2006. This curriculum will attend to the new competencies of the College of Registered Nurses of Manitoba and will address the changing needs in health care delivery. The revised curriculum was also implemented at partner sites at Red River College and the University College of the North.
- Nursing graduates had a 98% success rate on their first attempt at writing national licensure examinations through the Canadian Nurses Association. Graduates continue to be in high demand for employment. Employers are contacted annually and they express a high degree of satisfaction with the quality of the graduates.
- The appointment of a full time Communications Instructor has been instrumental in providing reading, writing, and verbal communication support to enhance skill development of undergraduate and graduate students.

### *Pharmacy*

- Full implementation of the revised curriculum will be completed in 2006/07 with the introduction of the fourth and final year of the new curriculum. Highlights of the new curriculum include: The Structured Practical Experiential Program (SPEP) in Year 4 has been expanded from 8 to 12 weeks to meet accreditation standards; a pharmacy practice liaison has been hired to conduct needed site visits to all community SPEP sites and collect key information on their strengths, weaknesses and needs; an experiential-based elective has been added in Year 4 (2006/07) to allow senior students in the program to explore and develop skills required in a wide range of health care-related environments.
- The Faculty has received over \$1 million to support an innovative research project entitled, "Interprofessional Education in Geriatric Care". The project, led by Dr. Ruby Grymonpre, involves Pharmacy, Medicine, Nursing, Occupational Therapy and Physiotherapy at the University in developing a structure to train 60

students in the area of geriatric care, using the concepts of interprofessional education. Pharmacy students will take part in the project from 2006 through 2008.

#### *Physical Education and Recreation Studies*

- Two courses were enhanced for delivery to Aboriginal students (Physical Activity Health, and Wellness and Concepts of Recreation and Leisure) are now available to students. The former was offered at Nisichawayasihk Cree Nation (Nelson House) in the fall of 2005, and will also be taught at the Downtown Aboriginal Education Centre in the Fall of 2006. The latter will be taught at the Downtown Aboriginal Education Centre in the Winter of 2007.
- An intensive curriculum review process, with the mandate to improve program quality by maximizing resources, minimizing duplication, and identifying priorities and efficiencies, was approved by Faculty Council in June 2006. Extensive revisions to the undergraduate curriculum will be proposed to the Senate Committee on Curriculum and Course Changes in September 2007, for implementation beginning in the fall of 2008.
- The Athletic Therapy Program received a four-year accreditation renewal from the Canadian Athletic Therapists' Association. This program is one of six programs at Canadian universities to be accredited.

#### *St. John's College*

- A Canadian Studies student exchange agreement has been signed by the University of Manitoba and Trent University.
- The St. John's College Residence has a significant number of Intensive English Students. An International Student Liaison position has been created in the College to assist these students.

#### *St. Paul's College*

- New courses were approved for the Catholic Studies program, including the offering of a course in Italy in spring, 2006.

#### *Science*

- The Department of Chemistry has redesigned the Majors and Honours Chemistry programs to create a larger range of options for students to select a 'focus area' involving 27 credit hours of course work. The intent is to provide students with the option of obtaining a highly interdisciplinary chemistry degree. Examples of possible focus areas are 'materials science', 'environmental chemistry', and 'biopharmaceutical chemistry'.

- The Departments of Chemistry, and Physics and Astronomy, have developed a joint Honours Chemistry/Physics degree.
- The Department of Computer Science is developing joint programs with the Department of Statistics, and with the Management Information Science Major in the Faculty of Management. The latter program was suggested by the Industrial Liaison Committee and is supported by Manitoba's ICT industry.
- A joint Honours program in Physics and Computer Science was given final approval, and the first students were admitted in September 2006. A joint Honours program in Physics and Biology is under development.

#### *Social Work*

- The BSW curriculum was standardized and harmonized across all sites of instruction (i.e., Fort Garry, William Norrie Centre, and Thompson).

#### *University 1*

- The Bison Sport+ program was introduced to facilitate student athletes' desire to meet their academic commitments while taking part in varsity sports. The academic support team is available to assist student-athletes with a wide variety of services ranging from advising, tutoring, workshops, referrals, and study hall skills. The coaches and the academic advisors work as a team. They gather important background information on each entering student athlete, build an academic profile, and develop individualized support programs that are tailored to the unique needs of each student athlete and team.
- The International Student Mentorship Program provides academic support to new international students. The focus is on academic issues such as goal setting, preparing for exams, and writing papers. The mentor must have a minimum GPA of 3.0, and participate in a 6 hour Tutor Training workshop.
- The "Introduction to University" course has been restructured to provide one large lecture and break out seminars for a maximum of 20 students. While the preferred method of delivery is a seminar group of 20 students with one instructor for 3 hours every week, this model is costly. The new format will be one 1 ½ hour lecture each week paired with eight 1 ½ hour seminars.

#### *Office of the Vice-President (Academic) & Provost*

- The Ph.D. program in Applied Health Sciences, involving the Faculty of Physical Education and Recreation Studies, the Faculty of Nursing, the School of Medical Rehabilitation and the Faculty of Human Ecology was approved by COPSE on May 12, 2006.

- In January 2006, the Council of Student Affairs (COSA) which includes all Directors of units within Student Affairs met to review the strategic plan in light of restructuring of Student Affairs. As a result, a new mission statement for Student Affairs has been adopted, that being “Creating Opportunities for Student Success”. Throughout the next year, Student Affairs will continue to discuss the integration of the Enrolment Management Model based on an emerging philosophy in Student Affairs entitled “Learning Reconsidered” – that is, rethinking programs and services by identifying student outcomes that should result from services and programs, and developing ways of measuring success in this regard.
- The Enrolment Management Task Force continues to meet regularly with the Vice-President (Academic) and Provost to discuss recruitment, policies, practices and retention strategies. Arising from the discussion of the Task Force, Senate approved policies relating to the establishment of 2.0 as the minimum required GPA to exit University 1 and the introduction of Option 4 for admission to the University. Option 4 is for high school students with averages of 63-69% (other options require a minimum 70%). Option 4 students receive additional academic supports and are required to meet performance standards by term before proceeding with their studies.
- A re-organization of Housing and Student Life has been completed. Key to the re-organization is the adoption of a professional staffing program for the Residence Life Program. Three full-time (live-in) Residence Life coordinators have been hired.
- A new Director of Student Recruitment has been appointed to focus on recruitment programs. A key component of the enhanced recruitment initiative is to significantly upgrade the unit’s space to create a visible “front door” to the University.
- The Virtual Learning Commons (VLC) has been introduced. It is a website which allows students to meet other U of M students, access online academic resources, provide social networking, and get advice from an online writing tutor. Although the VLC has many of the features of popular social networking websites such as MySpace or Facebook, the new site has been designed with U of M students in mind, bringing together university student resources, enabling connections, and promoting community building. A unique feature is a ‘to-do cloud’ where students move around the website just by clicking on items within a dynamic ‘to do’ list. Current ‘to do’ examples include: ‘learn how to cite references properly’, ‘take a trip around the world’, and ‘protect my computer from viruses.’ Other website highlights include an assignment manager that will create a step-by-step schedule for students to help them complete assignments.
- The Program Review Audit Council coordinates undergraduate program reviews arising from the Manitoba-Saskatchewan program review agreement. A joint website with the five partners: University of Winnipeg, University of Manitoba,

University of Saskatchewan, University of Regina and First Nations University has been developed. The website identifies both the members of the Program Review Audit Council and the procedures associated with the audit review process.

- The Office of International Relations secured two Canada Corps Internships, a program funded by the Canada International Development Agency (CIDA), to place University of Manitoba students in China and Russia. Under the program, 3<sup>rd</sup> and 4<sup>th</sup> year students and graduate students are able to undertake approved activities in developing countries where their universities already have links.
- The Provost's Aboriginal Advisory Committee continues to meet with Aboriginal units on campus to ensure that the University is the first choice of Aboriginal students. A Working Group was also established to develop a program for an Aboriginal Ph.D. cohort. Though the members of such a group are likely to be diverse in their academic fields of interest, students will have enough common experience and goals to form a viable learning community. It is for such a group that the Aboriginal Ph.D. cohort program is being developed.

*Office of the Vice-President (Research)*

- To recognize and celebrate excellence in our students, faculty and staff, a new Institutional Awards Coordinator position was established to further assist in the identification and development of nominations for major research and other awards. In addition, the Technology Transfer Office and the Faculty of Graduate Studies initiated a collaboration to identify graduate students to be nominated for awards recognizing innovation. The Technology Transfer Office also hosted an Inventors' Honors Event for researchers who have been issued patents, to which Manitoba's technology community was invited.
- A market survey of potential users of the Intellectual Property and Technology Commercialization Management Certificate Program was conducted. As a result the Program will be "re-tooled" and new promotional approaches introduced.

*Office of the Vice-President (Administration)*

- The Staff Relations Unit in Human Resources has promoted the use of performance evaluations for Sessional Instructors in order to provide developmental feedback on teaching performance.
- The Legal Office drafted and negotiated software licences for faculty and staff, enabling their access to education systems, and to international agreements with other universities. The licenses allow students and staff to access universities worldwide.
- The Bookstore is promoting the advantages of used text books as a competitive alternative. Printed bookmarks advertising the Canadian Campus Retail

Association's online used book sales system, "sellmytextbooks.org", has been positively received by students.

*Office of the Vice-President (External)*

- The publication "Bringing Research to Life: University of Manitoba Research Review" was published in the spring of 2006 in conjunction with the Office of the Vice-President (Research). It consists of 32 full-colour pages and a fast facts insert, highlighting the university's research strengths, successes, and the researchers. The publication is also available on line and has been featured on the university's homepage.

**2. Attract and Retain the Best**

*Agricultural and Food Sciences*

- Through the generous assistance of donors, the Faculty has created several scholarship and bursary programs. Two notable scholarships include the Willie Wiebe Graduate Fellowship for wheat breeding and research and the AgCentennial Scholarship. Both are aimed at undergraduate students entering the Faculty. The AgCentennial Scholarship Fund includes corporate and private donations, and matching funds of up to \$150,000 from Manitoba Agriculture, Food and Rural Initiatives.

*Architecture*

- The Faculty has developed a new teaching award, the Carl R. Nelson Jr. Teaching Award, to be awarded annually to a faculty member (sessional or full-time) who has displayed a commitment to teaching excellence in the Faculty's undergraduate or graduate programs. The first award will be made in 2007.
- The Faculty provided a mentorship program for Aboriginal students. Professor Michael Robertson, an architecture grad of Cree decent, met with Aboriginal students during the year. The Faculty has experienced an increase in the number of Aboriginal student applications to the undergraduate Environmental Design Program.

*School of Art*

- Enrolment continues to rise showing a 135% increase from 2001-2005 (from 110 students to 259).

*Arts*

- The Dean inaugurated a pre-Convocation breakfast for members of the teaching staff who have joined the Faculty within the past three years, as well as for their

department heads. This activity provides an opportunity to thank new faculty members (and Heads) for their work during the past year and to initiate them into the traditions of Convocation at the University.

- The Associate Deans introduced a series of information and discussion sessions for all faculty members who joined Arts within the past three years. This encouraged new members to share their ideas and concerns about their academic responsibilities, to understand how the Dean and Associate Deans could facilitate their work, and to network informally among members of this cohort of new-to-the-Faculty academics.

#### *Education*

- The Post Baccalaureate Diploma in Education program administrators have a visible presence at local and provincial conferences where they interact with school teachers, administrators and trustees.

#### *Engineering*

- The Faculty continues to attract many of the best students to the University. Evidence of this is shown by success in various national and international design competitions e.g. first place showings in the Unmanned Vehicle Systems International Student Competition and the Canadian Aeronautics and Space Institute Glider Competitions, and a second place finish in the Annual Institute of Electrical and Electronics Engineers (IEEE) Student Design Contest.

#### *Human Ecology*

- An Industrial NSERC Chair Program for adding value to Canola Oil has been developed with two industry partners, Syngenta and the Canola Council of Canada. The research activities, that will start early in 2007, are part of the work on functional foods and nutraceuticals. The work is expected to create new market opportunities for the canola crop and canola oil.
- A Community-based Learning Coordinator has been appointed to identify opportunities for career development in the Faculty's practice-based learning courses in which students work with community agencies, private companies or international projects. The practical experiences vary in length, include volunteer and paid work, and relate to all disciplines taught in the Faculty, in order to suit the needs of employers and requirements for entry into professional organizations.

#### *I.H. Asper School of Business*

- The "Grow our own Ph.D. Program" resulted in one faculty member being sponsored for a Ph.D. at Queen's University who has returned to the Faculty in

the Department of Accounting of Finance, while another is currently being sponsored for a Ph.D. in Accounting at Queen's University.

#### *Law*

- The number of top Manitoba students accepting offers for admission into the Faculty of Law is increasing. This reflects the effectiveness of the Student Recruitment Committee, the new Student Services Office, and the impact of the new Entrance Awards Program. In addition, the Pitblado Scholarship Program is providing an incentive for more of the top students to remain at Robson Hall following the completion of First Year.
- The reorganization of the support staff in the Faculty has been very successful. It has given individual staff members an opportunity to increase their responsibilities and the contribution they make to the implementation of the strategic plan. The addition of administrative staff with specific experience and expertise in critical areas has given the Faculty additional strength in areas where there were significant voids.

#### *Libraries*

- A Reference Community Forum was established to give more professional development opportunities to reference staff. It will be held twice a year. An Information Literacy Round Table was also held and attracted participants from three universities in the Province and speakers from outside the Province. Attendance included interested faculty as well as librarians.

#### *Medicine*

- Efforts continue to create an environment that better nurtures and builds the role of the clinician scientists. This will assist in enhancing CIHR funding for clinician scientists.

#### *Nursing*

- A faculty member has been accepted into the Ph.D. in Nursing program at the University of Alberta. She will be provided with teaching release time to help her pursue her studies.

#### *Pharmacy*

- The number of eligible applicants for 50 Pharmacy spaces doubled from 155 in 2001, to 300 in 2006. A critical skills essay assists in the selection of candidates who demonstrate the required communication and critical analysis skills. Further, the GPA for admitted students has increased steadily with a minimum adjusted GPA in excess of 4.0 for the incoming 2006/2007 first year class.

- As of May 2006, 100% of the graduating Pharmacy class intended on obtaining licensure. All graduates had secured positions with 80% going to community practice and 20% going into hospital or institutional settings. 40% of graduates reported accepting positions in rural centres.

#### *Physical Education and Recreation Studies*

- The Bachelor of Exercise and Sport Science degree was renamed Bachelor of Kinesiology degree (approved at Senate in December 2005).

#### *St. John's College*

- The College created a "St John's College" section in an information binder that Enrolment Services handed out to high school counsellors at the U of M Guidance Counsellors Seminar. This resulted in a higher number of first year students becoming College members.

#### *St. Paul's College*

- In the past year, St. Paul's College and its Foundation raised \$536,564 in the new and pledged support for Catholic Studies, the Arthur V. Mauro Centre for Peace and Justice, Chaplaincy, Lectureships, Scholarships and Bursaries, and General Programs.

#### *Science*

- The Faculty is in the midst of an exciting and ongoing renewal program. The Faculty has hired 72 new academic staff in the past six years. When the current searches are complete, 43% of the academic staff will be new and consist of a mix of young and more experienced staff.

#### *Office of the Vice-President (Academic) & Provost*

- Institutional Analysis (OIA) provided the leadership on a collaborative study of student retention among all post-secondary institutions in Manitoba, the Council on Post-Secondary Education (COPSE) and the Manitoba Advanced Education – Education and Training Branch. This study will survey students to determine why they left, where they went, their assessment of their educational experience, and their current labour market involvement. The survey is being undertaken in the Fall of 2006, for report in the Spring of 2007.
- OIA is working with the Educational Policy Initiatives Institute and others to develop the University Navigator project. This will provide information to prospective students. In the Spring of 2006 students were invited to participate in an on line survey to assess the quality and type of academic experiences. The response rates were better than average and the results will be published in November 2006. In addition to providing information to prospective students, the

project will provide a further measure of the University's accountability to the public.

- The Office of International Relations negotiated new partnership agreements and promoted the University of Manitoba with University and governmental delegations from South Korea, the State of Jalisco (Mexico), India, China, Turkey, Czech Republic, Japan, the European Union delegation, the Canadian Ambassador to Afghanistan, Finland, and Australia.

*Office of the Vice-President (Research)*

- Eleven nominations and six renewals were successful under the Canada Research Chairs (CRC) program in 2005-06. Of the eleven new nominees, eight were recruited from other universities in Canada and the United States.

*Office of the Vice-President (Administration)*

- New recognition programs were introduced. There are Awards of Excellence for support staff, and Anniversary Awards for 5, 10, 15, 20, 30, 35, and 40 years of service, in addition to the Long Service Awards that have been in place for some time to honour staff with 25 years of service. There is also a focus on increased informal recognition on a day to day basis.
- The Staff Benefits Office has completed reciprocal pension plan agreements with the University of Brandon and the Province of Manitoba. Transferability of pension plan funds with other organizations assist in attracting staff to the University.

*Office of the Vice-President (External)*

- Public Affairs teamed with Development and Advancement Services and the Office of the Vice-President (External) to plan and host a film crew from China's television network, CCTV, to shoot footage for a documentary series called 'World-Class Universities'. Scheduled to air in China in November, it will be a 20 minute segment highlighting all aspects of the university, including student life, research and academic programs. The other three Canadian universities to be featured are University of Alberta, University of Toronto and University of British Columbia. Since 2000, CCTV has profiled more than 65 universities around the world, including Oxford, Harvard and Princeton. The coordination of the Canadian visit was provided by the University of Manitoba, and in particular, a volunteer, Shirley Chang, from Financial Services.
- At the request of the Vice-President (Academic), Public Affairs updates the Bulletin and the faculty recruitment webpage to welcome new faculty with announcements, brief biographies and photographs.

- A full-time development officer was hired to raise funds for scholarships and bursaries, with an emphasis on graduate student support. Recent major gifts received for scholarships and bursaries include the following:
  - \$360,000 from Theodore D. Einarsson for Women's Volleyball Scholarships
  - \$100,000 from the Dairy Farmers of Manitoba for bursaries.
  - \$75,000 from Anthony Arnold for a Graduate Fellowship in Anthropology
- David Friesen, CEO of Friesens Corporation, successfully encouraged donors to support the libraries with a generous offer to match new donations to the libraries, dollar for dollar. In total, \$265,000 was raised from alumni through a phone and mail appeal.

**3. *Be a Centre for Research and Graduate Education that Makes a Difference to our Province, our Nation and our World***

*Architecture*

- Senate and the Board of Governors approved the new Ph.D. in Design, the first offered in Canada. It reflects a growing movement in Europe to provide advanced degrees in the area of design. Ph.D. candidates will be requested to demonstrate significant contributions to practice or academia before being admitted.
- The Faculty is part of the newly funded (\$1.6 million) Canadian Design Research Network (CDRN). The CDRN will support advanced visualization, design and manufacturing and enable research in sustainability, advanced design technologies and design education.

*Arts*

- The Faculty of Arts has provided a significant increase in funding for graduate students. Arts Graduate Research Awards are now available for up to 12 entering graduate students otherwise eligible for UMGF awards. Arts Graduate Student Conference Travel Awards were awarded to 30 students, reflecting the high level of graduate student conference presentations now being made.
- The Institute for the Humanities has introduced a Research Clusters Program. The three research clusters awarded funding for 2006-2007 are: The Postcolonial and South Asian and African Studies Group, The Law and Society Group, and The Representations of War Group.
- The Faculty of Arts is continuing work to create a database of researchers. The database will provide information on areas of expertise, grants received, projects in process as well as provide a research profile of the Faculty.

- The Social Science Research Unit (SSRU) continues to be developed. Funds have been allocated for a computer research lab for students and staff; appointment of a director and development of the project and its research space will occur in 2006.

### *Education*

- Graduate enrollments continued to increase in 2005-06. The Faculty has a total of 381 graduate students (37 in a Ph.D. program and 344 in a M. Ed program) which is an increase of 58% since 2001-02. The increase reflects both the changing demographics of the teaching profession in Manitoba and some innovative program developments (e.g. Master's cohorts in selected school divisions, a First Nations M. Ed cohort, and innovations in Teaching English as a Second Language specialization).
- The Faculty has continued to develop cross-Departmental clusters of research excellence that combine individual expertise, funded research, and graduate teaching. These include: Mathematics and Science Education; Language, Culture and Education (including Aboriginal Education, Teaching English as a Second Language, Immigrant Education and Cross-Cultural Counseling), Inclusive Special Education, and Teacher Education.

### *Clayton H. Riddell Faculty of Environment, Earth, and Resources*

- A Centre for Earth Materials is being developed to showcase and support research in mineralogy, crystallography and geochemistry.
- A funding strategy for graduate students, including earmarking endowment funds, is being finalized to attract and support graduate students.

### *Dentistry*

- There was a 100% success rate in the completion of the Royal College of Dentistry Canada examinations by graduates of the graduate programs in Maxillofacial Surgery, Periodontics and Orthodontics.

### *Engineering*

- A graduate program in Biomedical Engineering is being developed in cooperation with the Faculty of Medicine.

### *Law*

- The Centre for Research and Graduate Studies is now fully functioning including proper facilities for graduate students, publications, and professionals spending a term or more with the Faculty. This year, the former Deputy Minister of Justice

is in residence and, in 2007, a member of the Court of Queen's Bench will spend a term at Robson Hall.

### *Libraries*

- The Electronic Thesis and Dissertation (ETD) Pilot Project concluded successfully in May 2005. The Faculty of Graduate Studies is now recommending that all U of M graduating students submit electronic copies of their theses and dissertations into MSpace. Sixty theses have now been deposited into MSpace, the University of Manitoba's institutional repository.
- The Libraries became a member of the Center for Research Libraries, providing users with borrowing privileges from the Center's extensive collection of international scholarly materials, including large collections of dissertations, newspapers, microfilm sets, and specialized area studies resources.

### *Medicine*

- A research analyst is developing a data base to describe the research activity of the Faculty in relation to other universities with which the Faculty competes for research funding. The objective is to identify successful strategies that have been used to by other universities and determine whether they can be adapted to use here.
- The Dean is the new chair of the Manitoba Health Research Council. At the request of the Minister of Energy, Science and Technology, the Council conducted a strategic planning strategy for health research in Manitoba. This was a province-wide endeavour which included 160 individuals involved in health-related research. The report arising from the planning session will be presented to the Province with the hope that there will be an increase in provincial investment in health research.

### *Nursing*

- The Ph.D. in Applied Health Sciences was approved by Senate and the Board and funding was subsequently received by the Council on Post-Secondary Education. This is a collaborative program involving the Faculty of Nursing, Faculty of Physical Education and Recreation Studies, School of Medical Rehabilitation, and the Faculty of Human Ecology. This program will enhance the Faculty's ability to recruit and retain faculty.
- The first Researcher-in-Residence initiative began in April 2006. Dr. Carole Estabrooks from the Faculty of Nursing at the University of Alberta met individually with faculty and community nurse researchers to discuss their research projects, and presented lectures.

### *Pharmacy*

- A Graduate Student Teaching Training Program initiated by the Faculty has been established to provide funding for graduate students to teach one or two undergraduate pharmacy lectures, in a structured teaching experience program.

### *Physical Education and Recreation Studies*

- The Health, Leisure and Human Performance Research Institute (HLHPRI) and the Faculty are actively involved in the Winnipeg and Manitoba *in motion* community-based physical activity promotion initiatives. Faculty members are on Coordinating, Research, Health Care Professionals, and Communications and Marketing Committees. The HLHPRI completed a baseline survey of the physical activity levels of all Manitobans for the provincial government and the Winnipeg Regional Health Authority, with final reports to be distributed to policy-makers province wide. Several members of the HLHPRI conducted three community workshops (City of Winnipeg, RHA, provincial RHAs) to assist in the application of survey findings to local programs and policy development. The *in motion* research has provided employment and research opportunities for several graduate students, and opportunities to link undergraduate practicums to community-based centres.

### *St. Paul's College*

- The first students were admitted to the Ph.D. program in Peace and Conflict Studies, the only such program in Canada. The program is coordinated by the Mauro Centre for Peace and Justice.
- The Mauro Centre launched its first annual Storytelling Festival in June which was attended by over 3000 people.

### *Science*

- The Botany Department has identified economic and medicinal plant biology as an area of keen interest to students, government and industry. As a result, the Department is taking steps to strengthen its research capabilities in nutraceutical and pharmaceutical substances from native plants.
- Members of the Botany Department, based on expertise and the presence of a sizable and vibrant herbarium, are engaged in the critical role of advocating for rare and endangered plants and the preservation of biodiversity. WIN, the University's Herbarium, houses over 70,000 specimens, and its curators provide courses which make very significant taxonomic, chemical and genetic use of the holdings.

- The Department of Chemistry has expanded its endowed graduate scholarships and graduate bursaries to ~\$850,000 in endowment with two new graduate bursaries established over the past year.

#### *Social Work*

- The first students were admitted into the revised Ph.D. Program for the 2006-07 academic year. This program is one of only five English-speaking social work Ph.D. programs in the Canada. Graduates will therefore become the new social work professoriate in many universities

#### *Office of the Vice-President (Academic) & Provost*

- In the recent competition for CIDA Tier 2 letters of Intent (LOI) under the University Partnership in Cooperation Program (UPCD) coordinated by the Office of International Relations, 2 of 16 projects nationally selected to move to the full proposal stage were from the University of Manitoba. These included a proposal for HIV/AIDS Co-operation with the School for Public Health at Sichuan University, China and a project in Environmental Education in Bangladesh. In the past three years, all five Tier 2 letters of intention (LOI) from the University have been invited to the full-proposal stage.

#### *Office of the Vice-President (Research)*

- Approaches to building broad awareness of the University's research expertise and capabilities included: in collaboration with Public Affairs, distribution of a periodic research review of external stakeholders, both locally and nationally, and to major donors; a new Life Sciences Brochure was used at Bio 2006 and at the Business of Science Symposium in Winnipeg in October of 2006; preparation of a 'Taking Research to School' resource package with funding awarded by CIHR, designed to make Manitoba high school students more aware of CIHR funded research at the University.
- Discussions and activities to foster collaborations with regional research-intensive universities, included: the University of Saskatchewan (in the areas of functional foods and nutraceuticals, materials research and biological imaging); and the University of North Dakota (in the areas of infectious diseases, clean energy and rural health), the latter to be the focus of a proposed new collaborative research memorandum of understanding between the University and UND. In addition, discussions were initiated with the University of Minnesota regarding collaborative research opportunities.
- A new research proposal tracking system, with enhanced reporting functions with respect to research funding was implemented.

*Office of the Vice-President (Administration)*

- An Immunization Standard for University of Manitoba staff and students working in laboratory and animal care facilities was adopted in 2006.
- Environmental Health and Safety Office has developed an excellent relationship with St. Boniface General Hospital Research Centre staff regarding University researchers working at shared facilities. Discussions are continuing on establishing a formal agreement on the safety and health relationships between the institutions.
- Financial Services, in partnership with the Office of Research Services, recently enhanced its research support by recruiting a senior purchasing consultant assigned exclusively to meeting the purchasing needs of researchers.
- The Legal Office developed model agreements to be used as standards in negotiating all research related agreements, including those for commercialization of intellectual property.
- The University joined Westgrid, the western Canadian high performance computing consortium, and the computing requirements of the University are included in the national submission to CFI to fund a Canadian high performance computing grid.

*Office of the Vice-President (External)*

- The Government Relations Office was engaged in a number of activities directly focused on building a broad awareness of the university's research expertise and capabilities among key government and community stakeholders. Highlights include:
  - A visit to the *CCGS Amundsen*, during its port visit to Churchill, to highlight the scope of University of Manitoba research on Arctic climate change and research in the Hudson Bay region. The delegation of 18 included Honourable Diane McGifford, Members of Parliament Ray Simard and Bev Desjarlais, MLA Marilyn Brick, the Mayor of Churchill and representatives of Manitoba Hydro, Omnitrax and the media.
  - A new Legislative Lecture series was initiated to enhance the awareness, image and reputation of University of Manitoba research by bringing researchers to the Legislature to speak to government stakeholders. The first speaker was Dr. David Barber, Environment and Geography, who spoke on the impact of climate change on Manitoba. Additional speakers are scheduled.

- A coordinated series of Outreach Advocacy Tours was initiated to highlight university research, programs and facilities to key government and community stakeholders.
- The Alumni Association distributed approximately \$40,000 from the Alumni Fund to support 134 graduate students who presented research papers at conferences.
- Husky Energy Inc., of Calgary, has endowed \$1 million to the University of Manitoba for researching into alternative energy sources. The endowment will be used to establish the Husky Chair program in Innovation in Biofuel Research.
- The Burns family contributed \$205,000 to the Food Innovation Laboratory in the Faculty of Human Ecology. The gift was made in memory of Barbara Burns, a Human Ecology graduate. The Laboratory will also form part of the research facilities that support the Richardson Centre for Functional Foods and Nutraceuticals.

4. *Provide the Human, Physical and Technological Infrastructure Necessary for Learning and Research*

*Agricultural and Food Sciences*

- Supported by infrastructure funding from the Agri-Food Research and Development Initiative (ARDI), the Department of Animal Science has upgraded the Poultry Barns and installed new cages to comply with Animal Care standards.

*Architecture*

- After 1 1/2 years of construction, the renovation of the John Russell Building is complete. The building has a new curtainwall, and new ceilings and floors in many areas. The building has been rewired for high speed network access with support from the Faculty Student Technology Fee.
- The Faculty completed a review of the CADlab and has initiated a revamping of its operation. CADlab provides technological support to the Faculty and is critical to the delivery of the Faculty's programs. The revamping will include strategic reinvestments in technology and associated infrastructure.
- The Faculty has designated space for New Media collaborative scholarship. The space will be made available to faculty members from other faculties who are involved in new media scholarship and research.

### *Arts*

- A Centre on Creative Writing and Oral Culture is being developed. This Centre will be the first of its kind in North America and will build on the expertise of several Arts faculty members in the areas of creative writing, Aboriginal cultures and storytelling.
- Dr. Diana Brydon (CRC Tier 1 Chair in Globalization and Cultural Studies) was successful in a CFI application for a Research Centre for Globalization and Cultural Studies. The Centre will establish a unique regional research capability by forging synergies across the globalization and cultural studies fields locally, nationally and internationally. The Center will house state of the art internet – protocol video conferencing technology that will allow for collaboration on projects without extensive travel.
- Major changes are being made to infrastructure in Arts through the construction of new Voice-Data centers in Fletcher Argue and Isbister as well as major lecture hall upgrades in Tier, Isbister and University College. All of these changes will improve computer access (wireless internet access will be available) and lecture classroom teaching facilities.
- Arts has been allocated additional teaching and office space in the Isbister Building. The completion of the Social Science Computer Classroom has provided an exceptional classroom for the teaching of social science methods and practices. New office space will enhance visibility and access for several programs, including Women’s Studies in Isbister and Asian Studies in University College.

### *Dentistry*

- A new state-of-the-art “Viewpoint” (Patient/Student Information System) system was installed in Orthodontics. Patients can now let their orthodontist know they have arrived by using a biometric scanner that reads fingerprints. This message is sent directly to a computer at the orthodontic resident’s workstation. The system also provides access to virtual dental records and will eventually include access to digital dental x-rays.

### *Clayton H. Riddell Faculty of Environment, Earth, and Resources*

- New laboratories, including a 40 seat computer lab are being developed as part of the Wallace addition.

### *Human Ecology*

- Climate-controlled research facilities are being developed for the Medical Textiles research program. These facilities will support research to understand and control the movement of viruses and other organisms through protective suits

and masks. The facilities will also increase the capacity of the Textile Sciences graduate program and provide opportunities for study areas that are unique in Canada.

- A renewal of sensory analysis facilities in the Human Ecology and RCFFN (Richardson Centre) buildings has created new opportunities for graduate students and research collaborations. E-nose equipment is creating two benefits: as an assessment tool of the properties of functional food products that are important to consumer and the commercialization of products; as a basic science tool, to increase the sensitivity of assessments of compounds in food that have potential health effects.
- Renovations for the proposed Centre for Life Course Health have been completed. The facilities are designed for observational research on individual and group behaviours. Life Course Health refers to the events in one stage of life that lead to ill-health or loss of well-being later in life. The work complements the research conducted in the Centre on Aging, Manitoba Institute of Child Health and the Centre for Health Policy.

#### *Law*

- The Moot Court Room renovation has been completed and when divided, will serve as two classrooms which will give the Faculty a total of four new "smart" classrooms.

#### *Libraries*

- During the year there has been a record number of equipment installations, redirections and disposals involving about 700 pieces of equipment at 21 library locations on campus or at hospital libraries (operated by the University). Of this number, 154 obsolete public access computers were removed from use and replaced with new units, 118 public access computers were refurbished and 42 computers were installed in the health sciences libraries around the city.
- The Libraries acquired access to the WorldCat Collection Analysis service, which will aid in the undergraduate and graduate program reviews and curriculum change, and for collection assessments related to Canada Research Chairs appointments.

#### *Medicine*

- The new clinical teaching and simulation facility in partnership with the Winnipeg Regional Health Authority will be commissioned early in 2007. Space will also be provided for four small-group teaching rooms.

*Music*

- The Faculty contributed to the fund-raising efforts of the University with the receipt of a \$1 million donation in August of 2005 from the Lillian and Don Wright Foundation. \$800,000 was directed to the proposed Centre for Music, Art and Design and \$200,000 targeted for scholarships for students in the Faculty of Music commencing in 2007.

*Nursing*

- The Faculty worked closely with the Learning Technologies Centre to develop and/or update eight undergraduate courses for online delivery.

*Pharmacy*

- A new graduate research laboratory for the drug utilization and management researchers has been completed.

*Science*

- A new set of 17 Computer Science research labs was established in the new Engineering and Information Technology Complex with the assistance of a \$1.9M grant from Western Economic Diversification. These labs will support and enhance a broad range of research activities, including industrial and interdisciplinary research, and improve graduate education in Computer Science.
- The construction work in the Buller Building, which began this summer on the 500 floor, is scheduled to continue over the next two or three summers.
- The complete renovation of one chemistry undergraduate teaching laboratory took place during the summer of 2006 at a cost of \$500,000. This laboratory was completely rebuilt in order to provide an environment and infrastructure consistent with modern safety standards and practice.
- Ownership of a 49-acre parcel of land and four buildings (including the grand Mallard Lodge), collectively comprising the Delta Marsh Field Station, was transferred to the University by the Province of Manitoba, in recognition of the important ongoing ecological research and teaching, land stewardship, and community education activities of the station. A 1,750-acre parcel of land at Delta Marsh was also leased to the University by the Province for a period of 21 years to enable ongoing ecological research and teaching. The Delta Marsh Bird Observatory, one of the most active stations in a national network, consolidated all of its activities (including spring and fall periods of migratory songbird capture and release) at the Delta Marsh Field Station, and moved a laboratory building to the site.

- The Allen Building was rewired with enhanced internet, audio, and visual capabilities. New and significantly improved audiovisual equipment was installed in the teaching laboratories.

*Office of the Vice-President (Academic) & Provost*

- Institutional Analysis has developed a data base for ACCESS and other accessibility programs, including data on self declarations of Aboriginal status. Data and analysis from these projects will support program funding requests, public education, recruitment, advancement, and accountability. Further development will include the ability to track student progress and graduation rates.

*Office of the Vice-President (Administration)*

- On March 1, 2005 the University was successful in receiving approval of a \$75 million loan from the Province. On April 3, 2006, a further \$75 million in debt proceeds was advanced. This financing, together with \$15 million in commitments from the Manitoba Rural Infrastructure Fund and Western Economic Diversification, and over \$100 million raised from donors from November 2001 to March 2006, will continue to have a very positive effect on campus renewal.
- Significant capital projects completed or in progress during 2005-06 include:
  - construction on the Engineering and Information Technology Complex began in 2003-04 and continued with an additional \$19.5 million being spent on the facility in 2005-06;
  - major renovations were completed on the Wallace Building to house the Clayton H. Riddell Faculty of Environment, Earth, and Resources (\$2.5 million);
  - major renovations to the Faculty of Architecture's Russell Building (\$3.4 million) were undertaken;
  - construction of the parkade at the Bannatyne Campus was completed;
  - construction costs of \$5.3 million were incurred on the National Centre for Livestock and the Environment at Glenlea Research Station; and
  - numerous building upgrade and renovation projects were undertaken such as heating, ventilation and air conditioning at a cost of \$1.3 million, fire and safety upgrades at a cost of \$1.2 million, roof replacements of \$1.1 million, cabling of \$1.1 million and \$2.2 million of asbestos abatement projects.

- Two new positions were created in the Environmental Health and Safety office in 2006 to deal with emergency management planning/coordination and construction and contractor safety, to assist in maintaining a safe and healthy working and learning environment.
- Financial Services has continued to encourage students to use the internet and telephone banking to pay fees and thereby increase efficiency, especially near fee payment deadlines. For the year ended March 31, 2006 over 80,000 fee payments were processed (up 9,000 from the previous year). Almost 30% of these payments were received through internet or telephone banking.
- Classrooms in Robson Hall, Wallace, University College, Education, St. John's, Dentistry and Medical Rehabilitation were upgraded with new technology. More classrooms will be upgraded next year as part of this ongoing project.
- Wireless data networks were installed in a number of buildings in conjunction with the building cabling upgrade project. Others will be installed as more buildings are upgraded. These networks are put in common spaces such as libraries and study areas and are heavily used by students to access computing and networking services.
- Funding was made available to create a new position of a Facility Assessment Coordinator responsible for keeping the campus facility assessment up to date and for reviewing the data and benchmarking with similar organizations. This position will also be responsible for accurately defining the requirements of the various facilities along with the associated costs.
- Physical Plant project response times have dramatically improved due to a new Project Scheduler position in Physical Plant. Client contact is now made within 5 days of submission of a request for repairs/renovations.
- Physical Plant has developed a comprehensive training program with more than 70 topics identified for individual staff training. The training database has been developed to maintain the records and identify the required training. A competency evaluation system has been introduced to ensure the training has been understood.
- Material diversion from landfill for 2005-06 equalled 345 tonnes of fibre (paper, etc.) and 45 tonnes of beverage containers. The goal for 2007-08 of diverting 42.5 tonnes/yr of beverage containers has been surpassed, and the goal for fibre recycling is 380 tonnes/yr of fibre.
- The final phase of the Cinemaworks project to wire all residence rooms in Speechly and Tache Halls with high-speed internet access has been completed with the installation of DSL modems in each room. Residence students no longer have to make arrangements to pick up and install their modems; they need only

plug their computers into pre-installed modems in each room to access the internet.

- The 300 stall Tecumseh Street Parkade at Bannatyne Campus officially opened this year. Gate access for the state-of-the-art-parkade is controlled by wireless pass keys and video security systems are installed throughout the facility. This new parkade has reduced the waiting list by 120 staff members.

*Office of the Vice-President (External)*

- The Hutterite Colonies of Manitoba made an unprecedented gift to the National Centre for Livestock and the Environment. In total, there are 106 Hutterite colonies in the province, and members chose to make a collective gift of \$300,000 to the Centre.
- In partnership with other units, the Government Relations Office has actively sought non-traditional sources of funding for infrastructure. Examples are: \$2 million in infrastructure funding from federal and provincial partners for the development of Phase II of Smartpark; \$1.24 million for EITC Nanotech Lab through Western Economic Diversification; \$4 million for the RCFFN Bio-processing Lab from Western Economic Diversification; \$150,000 from the Federal Métis Interlocutor's Office towards the construction costs of the Aboriginal Student Centre.
- In 2005-06, \$5.1 million was raised from private sources for infrastructure including \$2.5 million for the first phase of the infrastructure funding of the National Centre for Livestock and the Environment.

5. *Be at the Centre of Our Community: On Manitoba*

*Agricultural and Food Sciences*

- The planning for the Glenlea Farm Education Centre (GFEC) is continuing. The Centre will be an interactive showplace with hands-on displays of grain and feed production, viewing galleries for the hog barn, and food retailing and food safety displays.
- The Faculty of Agricultural and Food Sciences organized *AgCentennial 2006*, the celebration of its 100<sup>th</sup> anniversary where more than 500 alumni and guests in both Agriculture and Home Economics visited for a weekend of activities July 22-23, 2006. A formal reception was held on November 6, 2006 - the official 100<sup>th</sup> anniversary of the day the Manitoba Agricultural College opened its doors.

### *Architecture*

- Two graduate design studios were held in rural Manitoba; one was a Design/Build in Minnedosa and one was a design studio in Grand Rapids. The former received significant television and print media coverage in western Manitoba. The latter was coordinated with the Grand Rapids First Nation (Chief Ovide Mercredi) and received significant acknowledgement from Chief Mercredi and the community.
- The Faculty has initiated a long-term relationship with Grand Rapids First Nation to explore opportunities for design and planning collaboration. The first successful collaboration involved the design of an Eco-cultural Destination Resort by students from the graduate programs of Architecture, City Planning, Interior Design and Landscape Architecture.
- The Faculty assisted the Forks Development Corporation by organizing a design charrette with participation from Winnipeg business, professional design firms, NGO's, and faculty and students from the University of Manitoba, the University of Calgary and University of Minnesota. The charrette explored the potential development of a key undeveloped site.

### *School of Art*

- The Winnipeg Art Gallery continues to exhibit and house the School of Art Collection, providing a vehicle for the general public to enjoy the collection amassed by the School of Art from a period of 1913 – 1951.

### *Arts*

- The Institute for the Humanities offered two programs in the community, "Food for Thought" seminars at McNally-Robinson Booksellers and an annual co-sponsored round-table with the Winnipeg Art Gallery, both featuring Arts faculty members.

### *Dentistry*

- The Biopsy Service received 573 biopsies this past year from dental practitioners and provided specialty consultation throughout Manitoba in addition to providing specialty services to patients attending the Faculty's clinics.

### *Education*

- The Faculty has increased its activity with the professional, and community organizations in Manitoba – specifically with the Manitoba Teachers' Society, the Manitoba Association of School Superintendents, the Manitoba Association of School Trustees, the Manitoba Association of Parent Councils, the Assembly of Manitoba Chiefs and the Manitoba Métis Federation as well as the various teacher special area groups in the province.

### *Engineering*

- The Faculty has entered into an agreement with the aerospace industry to help focus some of the efforts of the Design Chair program on the challenges faced by the local aerospace sector in attracting graduates to their industry. The aerospace companies are supporting the activities of the Society of Automotive Engineers and the Canadian Aeronautical and Space Institute design competition teams and providing partial support for an Engineer-in-Residence.
- The design for the control structures for the floodway expansion is being tested in the hydraulics laboratory and the geotechnical design for the sloping slides of the “ditch” is being evaluated by Civil Engineering.

### *Clayton H. Riddell Faculty of Environment, Earth, and Resources*

- The Faculty hosted the Schools on Board Arctic Climate Change Youth Forum, February 2006 at Grant Park High School.
- The Faculty developed the Manitoba EdGEO Teachers’ Workshop which took place in the Whiteshell Provincial Park in September 2006.

### *Human Ecology*

- A new joint position with the St. Amant Centre focuses on developmental disabilities and related family issues. The research will include community related functioning of people with disabilities, clinical behaviour assessments, population based studies to inform social policy and health care utilization related to disability.
- Research in the Family Social Sciences Department in the area of corporal punishment of children has contributed to several social policy instruments in Canada, Britain and New Zealand. In Canada the work was part of the Joint Statement on Physical Punishment of Children and Youth, which provides guidance for provincial and local agencies associated with child care or services.

### *I.H. Asper School of Business*

- Together with the Mini-University, the Asper Centre for Entrepreneurship offered a one-week Asper New Venture Adventure program through the BizCamp program. This program targets youth between the ages of 10-12. Activities include learning about what it takes to be an entrepreneur, team building, field trips to local businesses and visits by local entrepreneurs. Robert Warren, Executive Director of the Centre was invited to Japan to deliver presentations in Akita and Tokyo about the BizCamp.

- The Department of Supply Chain Management was awarded \$300,000 to develop a new professional level accreditation program for the Purchasing Management Association of Canada (PMAC). This will result in a renewal of the Certified Professional Purchaser (CPP) accreditation program to shift the focus from an emphasis on purchasing to a focus on the strategic and professional aspects of the field of supply chain management.

#### *Law*

- The Faculty, in partnership with the Law Society of Manitoba and the Manitoba Bar Association, is sponsoring the Pitblado Lectures featuring the role of appellate courts. This year marks the 100<sup>th</sup> anniversary of the creation of the Manitoba Court of Appeal and, to celebrate the milestone, the Faculty is working with the Chief Justice to arrange a special sitting of the Court of Appeal at Robson Hall during the academic year. In addition, the Judge-Shadowing Program continues to be a highlight for first year students.

#### *Libraries*

- Archives and Special Collections identified a King James Bible in its collection (owned by St. John's College) as a first edition, possibly used by King James himself: The Bible, published in 1611 and one of only 50 believed to be extant, generated a great deal of public interest and is a significant item in the rare book collection which the Libraries makes available to scholars.
- The Libraries partnered with the Manitoba Library Consortium, Archives of Manitoba, Legislative Library and the University of Winnipeg to produce *Manitobia*. After a year of planning and development, the *Manitobia.ca* online archive is now available through the Libraries website. It contains over 150,000 pages of historical Manitoba newspapers and 800 rare and unique documents, photos, diary entries, letters and historical maps.
- Under the agreement with the Winnipeg Regional Health Authority, the Long Term Care facilities, Deer Lodge Centre's J.W. Crane Memorial Library, the Misericordia Hospital Library and the Riverview Health Centre Virtual Library became units of the UM Libraries. The staff in these long term care facilities now has access to all the services and resources of the University. The J.W. Crane Memorial Library's collection is a national caliber collection covering long term care and geriatrics.

#### *Medicine*

- Efforts to increase exposure of rural and northern students to medical students, included visits by medical students to rural high schools during Rural Week and participation in Discovery Day which brings over 300 high school students to the Faculty.

### *Music*

- The Faculty, in cooperation with, Public Affairs and the Alumni Association presented U of Manitoba Night at the WSO in January 2005. Professor Henry Engbrecht, Faculty of Music, was the guest conductor of the Winnipeg Symphony Orchestra in two performances of Felix Mendelssohn's *Elijah*. The University Singers, the University Women's Choir and, the Bison Men's Chorus, under the direction of Steve Denby, performed with the WSO. In addition, an alumni chorus brought together especially for this event (under Henry Engbrecht's direction) joined the combined choirs for a total of 200 voices.
- Professor Steve Kirby's activities include assuming the role of Artistic Director for the *Smart Park Jazz Innovators Series*, the Artistic Director of the *Izzy Asper Jazz Performance Series* (performing at the first concert to raise funds for the Human Rights Museum), his involvement in the creation of the monthly periodical, *dig! Magazine*, his design of a mobile concert stage for *Jazz on Wheels*, and as Director of the *U of M Summer Jazz Camp* with its stellar roster of artists each year, and the *Cool Monday Night Hang*.

### *Nursing*

- The Faculty hosted a health care agency appreciation reception to thank practice colleagues involved in student clinical experiences. Faculty and students gathered to recognize the practice agencies for their mentorship and supervision of nursing students.

### *St. John's College*

- The first two students in the Diploma in Applied Theology graduated this past year. The Diploma program represents a significant reconsideration of the nature of theological education and preparation for ministry, as well as a collaboration between the Diocese and St John's College. Both students, having been ordained to the Diaconate shortly before they graduated, are now enrolled in the Certificate in Priestly Ministry program and have been ordained as priests.

### *Science*

- Three graduate students from the Department of Computer Science have formed White Magic Robotics, a small start-up firm that joins the growing list of Manitoba companies that originated as spin-offs from the research and expertise that can be found at the University.
- Dr. T. G. Berry in Mathematics organized the Peguis First Nation Science and Technology Symposium in November 2005.

### *Social Work*

- Delivery of a distance MSW and a BSW to two cohorts of Aboriginal students from the South East Tribal Council, was implemented. These programs along with two ACCESS programs (Inner City and Thompson) ensure that many culturally diverse and non-traditional students in Manitoba have access to a professional social work education.
- Collaboration with Collège universitaire de Saint-Boniface continues on the delivering a BSW in French with the formal proposal being finalized for the Fall of 2006.

### *Office of the Vice-President (Research)*

- The Office participated in and contributed to the planning of 2005 Business of Science Symposium, sponsored by Manitoba Energy, Science and Technology; and participated in BIO 2006 in Chicago as part of the Manitoba pavilion.
- The Office played a leadership role in the further development of Winnipeg's life sciences cluster, through membership on the newly-created BioMed City Leadership Council; and in discussions and a feasibility study regarding the establishment of a Cereals/Grains Research Centre of Excellence, ideally to be located at Smartpark.
- The Technology Transfer Office hosted 'Intellectual Property' events on both the Fort Garry and Bannatyne campuses designed to raise awareness of among faculty and students of key issues/factors involved in technology commercialization, which drew over 120 attendees.
- A \$1.2M Tri-Council Intellectual Property Mobilization Grant (IPMG) Program was received for an additional four-years of funding of the technology transfer group. The University leads this Manitoba Partnership, with original partners, CancerCare Manitoba, the Health Sciences Centre, the University of Winnipeg and Brandon University, and new partners, St. Boniface General Hospital and Red River College. A new application has been made to expand the Manitoba Partnership to a Prairie Partnership, to include the Universities of Saskatchewan and Regina.
- Smartpark has been further developed through the completion of:
  - The Richardson Centre for Functional Foods and Nutraceuticals;
  - The Industrial Technology Centre's facility, which includes sub-leased space to the Composites Innovation Centre;
  - One Research Road, the Park's third multi-tenant facility (now fully occupied);
  - An expansion by Cangene Corporation;

- The development of 178 Innovation Drive, a single-tenant facility for IMRIS, a spin-off company of the Institute of Biodiagnostics, with this space subsequently leased by Monteris Medical, a spin-off of St. Boniface Research Centre; and
  - The paving of Dafoe Road West and adjacent sidewalks, expansion of Innovation Drive, and initiation of the development of Technology Trail with support from the Manitoba Rural Infrastructure Fund.
- The University participated in local economic development efforts targeted at the North American Superhighway Corridor (NASCO) with institutions in Kansas City and Monterrey, Mexico.

*Office of the Vice-President (Administration)*

- The Environmental Safety Building is now complete and in full operation. This facility is being used to train a number of non-university personnel such as fire fighters.
- Expanded marketing of the summer accommodations has proven successful, with a marked increase in summer leases and short-term casual stays over last year. All rooms available for non-conference guests (48 beds in Speechly Hall and 154 in the Arthur V. Mauro Student Residence) were rented out and for the first time, rooms in University College were made available to students and the public for summer residence rentals.
- Membership with Team Winnipeg, a consortium of local tourism industry groups operating under the auspices of Destination Winnipeg, has provided the Special Functions Department with numerous opportunities to market and promote the University's conference and accommodation business.

*Office of the Vice-President (External)*

- A communications plan was developed to reinforce the importance of the University to the cultural and economic well-being of Winnipeg and Manitoba. As a result the University of Manitoba became a partner in the provincial "Spirited Energy" re-branding campaign and has hung a banner celebrating the new branding theme on the Max Bell Centre.
- The Alumni Association participated in connect2canada.com, an effort initiated by the former Canadian Ambassador to the United States to link graduates of Canadian universities living in that country, as well as in the newly created CANSOCAL (Canadian Alumni Network of Southern California) to increase connections with graduates in the area.
- The Association has recently established a Past President Council to act as consultants and advisors to the Alumni Association Board of Directors on topical issues.

- The Alumni Association offered an e-newsletter for graduands on four occasions in 2005-06. With the addition of email for recent graduates, the number of recipients increased from approximately 11,000 to 17,000.
- *A Resource Guide for Special Event Planners* was developed for the University. The guide features information and tips on all aspects of event planning, from setting goals and objectives to event details such as invitations, parking, catering and welcoming guests. The guide is available online.
- On September 15, 2005 the new facility at 485 Selkirk Avenue was officially opened, including tours and a ceremony which featured aboriginal drum groups and a children's choir. This event was jointly planned with the University of Winnipeg. About 250 people attended, including many members of government and the community of Selkirk Avenue. A subsequent event for the official naming and dedication of the facility as the William Norrie Centre was held October 15, 2005.

## **Report of the Senate Executive Committee**

### **Preamble**

The Executive Committee of Senate held its regular monthly meeting on the above date.

### **Observations**

#### **1. Speaker for the Executive Committee of Senate**

Mr. Tommy Bzura will be the Speaker for the Executive Committee for the December meeting of Senate.

#### **2. Creation of an ad hoc committee of the Committee of Election**

Dr. Norrie's current term as Chancellor will end on May 31, 2007. It is necessary to convene a meeting of the Committee of Election to elect a Chancellor for a three year term from June 1, 2007 to May 31, 2010.

In accordance with *the University of Manitoba Act* (the "Act"), the Committee of Election consists of the members of the Board of Governors and the members of the Senate meeting in joint session. A copy of the relevant provisions of the Acts is attached to the report as Appendix "A". In the past, the Board of Governors and the Senate have jointly established an ad hoc committee to oversee the procedures for nomination and election of a Chancellor, including setting the date of the election. The procedures for nominating, electing and announcing the Chancellor which was followed in 2004 is attached to the report as Appendix "B".

At its meeting of November 21, 2006, the Board of Governors considered, subject to concurrence by Senate, the creation of an ad hoc committee of the Committee of Election. At the same meeting, the Board appointed two members of the Board to the ad hoc committee.

The Executive Committee recommends that Senate establish an ad hoc committee (in line with the proposed Board motion and past practice); and that Senate elect 2 members to the Ad Hoc Committee (see recommendation below).

#### **3. Approval of Graduands from the Faculty of Medicine**

In 2005, there was the addition of a session of Convocation for graduands from the Doctor of Medicine and Bachelor of Science in Medicine. A special meeting of Senate was required to approve the graduands prior to the ceremony. In order to facilitate the approval of the graduands without a special meeting of Senate, Senate Executive proposes authorizing the President and Vice-President (Academic) and Provost to approve the graduands in cases where timing requires it(see recommendation below)

#### **4. Comments of the Executive Committee of Senate**

Other comments of the Executive Committee accompany the report on which they are

made.

**Recommendations:**

The Senate Executive Committee recommends the following regarding the ad hoc committee of the Committee of Election:

- 1) That Senate approve the following: That subject to the concurrence of the Board of Governors, an ad hoc committee of the Committee of Election, consisting of two members of the Board of Governors and two members of Senate, be established to:
  - (a) perform the functions required under the procedures for the Committee of Election which were used for the 2003 Chancellor election (the nomination for Chancellor, the method of election, the date of election, and the announcement of the elected Chancellor); and
  - (b) recommend to the Board and Senate on any issues which require consideration prior to the meeting of the Committee of Election (including an appropriate timetable for receipt of nominations and conducting the election).
- 2) That Senate elect two Senate representatives to the ad hoc committee.

The Senate Executive Committee recommends the following regarding the approval of Graduands:

That Senate authorize the President and Vice-President (Academic) and Provost, as Chair and Vice-Chair of Senate, to, if timing requires it, approve graduands who have met all the requirements for their degrees on behalf of Senate, with subsequent report to Senate for information. It is understood that any candidates recommended for a degree notwithstanding a deficiency must be approved by Senate.

Respectfully submitted,

Dr. Emőke Szathmáry, Chair  
Senate Executive Committee  
Terms of Reference: *Senate Handbook* (Revised 1992), Section 7.2.

/nis

*The University of Manitoba Act, sections 46 to 55*

## COMMITTEE OF ELECTION

Committee continued

46 The Committee of Election is continued.

Membership of committee

47 The Committee of Election shall be composed of

(a) the members of the board; and

(b) the members of the senate.

Presiding officer

48(1) The chairman of the board shall be the presiding officer at all meetings of The Committee of Election.

Secretary

48(2) The secretary of the senate shall be the secretary of The Committee of Election.

Meetings of committee

49 The Committee of Election shall meet at such times and places and on such notice as may be fixed by it by regulations in that behalf, and also when convened by the chairman of the board.

Duty of committee

50 The sole duty of The Committee of Election shall be to elect a chancellor of the university.

## THE CHANCELLOR AND VICE-CHANCELLOR

Duties of chancellor

51 The chancellor shall be the titular head of the university and, in addition to all other duties to be performed by him, shall confer all degrees.

Term of office

52 The term of office of the chancellor is three years, commencing June 1 of the year in which he is elected; and he shall hold office until his successor is elected and is eligible for re-election.

Vacancy in office

53 Where a vacancy in the office of chancellor occurs from any cause, the vacancy shall be filled by The Committee of Election; and the successor so elected shall hold office for the remainder of the term of his predecessor.

Disqualification

54 No person who is a member of the academic or administrative staff of any university or of any college or of the governing body of any university other than The University of Manitoba or of any college is eligible to be chancellor.

Vice-chancellor

55 The president is the vice-chancellor of the university; and, in case of the absence or disability of the chancellor, or of there being a vacancy in the office of chancellor, the vice-chancellor possesses all the powers and shall perform all the duties pertaining to the office of chancellor.

Election of a Chancellor  
for the Term of June 1, 2004 to May 31, 2007

**BACKGROUND:**

The Chancellor is the titular head of the University and confers all degrees. The Chancellor is also a member of the Board of Governors and the Senate.

The Chancellor is elected by the Committee of Elections and serves for a three-year term. There is no limit on the number of terms a person may serve as Chancellor. Chancellor Norrie's term expires on May 31, 2004.

The Committee of Election is comprised of the members of the Board and the members of Senate. The Chair of the Board is the presiding officer. The University Secretary is the Secretary. The sole duty of the Committee of Election is to elect a Chancellor.

Prior to the expiration of the Chancellor's term of office, the Board and the Senate establish an *ad hoc* Committee of Election to oversee the procedures for election of the Chancellor.

**PROCEDURES:**

The procedures for nominating, electing and announcing the Chancellor are as follows:

**1. Nominations:**

- 1.1 Nominations for the Office of Chancellor are requested from the following constituencies within the University of Manitoba:
  - (a) members and assessors of the Board of Governors and of the Senate;
  - (b) students;
  - (c) academic staff
  - (d) support staff; and
  - (e) alumni
- 1.2 Nominations forms must be signed by any five persons eligible to nominate and the nomination forms must be received in the Office of the University Secretary no later than 4:00 p.m., Friday, [February 13, 2004].
- 1.3 Nomination forms are available on the Office of the University Secretary's web site at [www.umanitoba.ca/admin/governance/forms/nominations/chancellor.pdf](http://www.umanitoba.ca/admin/governance/forms/nominations/chancellor.pdf). Copies of the nomination form may also be requested by phone (474-9593).
- 1.4 Nomination forms must be accompanied by the curriculum vitae of the person nominated as well as a short biographical sketch of the nominee which will be provided to the *ad hoc* Committee of Election.
- 1.5 Nominations from the floor on the date of the meeting of the Committee of Election shall not be permitted.

---

**2. Number of nominations by one person:**

2.1 Nominators are permitted to nominate no more than one candidate each.

**3. Eligibility:**

3.1 No person who is a member of the academic or administrative staff of any University or college, or of the governing body of any University other than the University of Manitoba or of any college, is eligible to be Chancellor.

**4. Names of candidates:**

4.1 The names of all candidates whose nominations have been properly endorsed and whose names have been placed in nomination on or before [February 13, 2004], will be included on the ballot.

4.2 The names of the candidates shall remain confidential; curricula vitae shall be circulated at the meeting on the day of the election with the exception that eligible members of the Committee of Election may peruse the documentation in the Office of the University Secretary on the day prior to the election. Similar arrangements will be made for the Bannatyne campus. Notice of this opportunity shall be included in the notice of meeting of the Committee of Election along with a cautionary note regarding the confidentiality of the documentation and the names of the candidates.

**5. Method of election:**

5.1 The election shall be held in a closed and confidential meeting of the Committee of Election (members of the Board of Governors and of Senate) with the understanding that assessors to the Board and Senate may be present but may not vote.

5.2 The number of candidates to be eliminated at each stage of balloting is determined by the ad hoc Committee of the Committee of Election following the close of nominations.

5.3 Election will be by non-transferrable secret ballot. The Chair of the Committee of Election shall cast a sealed ballot to be opened in the event of a tie.

5.4 The balloting shall continue until the candidate receiving the highest number of votes receives a simple majority of the votes cast.

5.5 The staff of the Office of the University Secretary shall scrutineer for the election.

**6. Date of election:**

The meeting of the Committee of Election will be held at 1:00 p.m. on [Wednesday, March 3, 2004].

7. **Announcement:**

- 7.1 A Call for Nominations for Chancellor shall be placed in the University *Bulletin* and *The Manitoban* and shall be distributed to the Alumni Association and to the media in January 2004.
- 7.2 A publicity release shall be prepared by the Director of Public Relations in consultation with the University Secretary, approved by the Chair of the *ad hoc* Committee, and distributed to the Alumni Association and to the media.
- 7.3 Upon the election of the Chancellor, the Chair of the Committee of Election is authorized to make that information available to the public.

**Report of the Senate Committee on Admissions concerning a proposal from the I.H. Asper School of Business to eliminate the option for students to complete required qualifying work in a summer session immediately preceding the fall intake; and to reduce the required number of credit hours of qualifying electives (2006.10.12)**

**Preamble**

The Undergraduate Program Committee in the Asper School of Business examined the efficiency of the current admission practices and examined how the process could be streamlined for both administrative and student benefits.

The current practice is to require all students admitted under Track 1 and Track 2 to have completed 30 credit hours of qualifying work, normally in University 1, with no grade less than a "C". The 30 credit hours of qualifying work can be completed on a part-time basis. Applicants have been permitted to complete the qualifying requirements in the summer session providing the course(s) is completed by June 30. The submission deadline of final and official university/college transcripts for students completing qualifying requirements by June 30 is mid July (usually July 14).

Eliminating the option for students to complete remaining qualifying work in summer session and reducing the number of credit hours of qualifying elective courses was discussed at length at the Asper School of Business, Undergraduate Program Committee Meeting held on June 20, 2006.

**Observations**

The current admission process for the Asper School happens in four stages:

1. Initial admissions based on final grades available in May
2. Secondary admissions based on grades from qualifying courses completed by June 30
3. Admission from the special consideration category and
4. Appeals from rejected applicants from special consideration and regular categories.

The Undergraduate Program Committee examined the negative consequences and benefits from changing the following items of current admission processes:

- i) Modifying the number of credit hours of qualifying courses to 24 (by reducing the number of electives required for admission)
- ii) Discontinuing the practice of allowing students to complete qualifying requirements in the summer session immediately preceding application and
- iii) Changing the submission deadline for all outstanding final and official university/college transcripts to an earlier date. The current deadline date is mid-July.

**Comments of the Senate Executive Committee:**  
The Senate Executive Committee endorses the report to Senate.

The identified **negative** consequences of the current processes include:

- i) The final selection for Track 1 and Track 2 applicants does not occur until the third week of July and registration typically begins for Asper School students the fourth week of July.
- ii) The special consideration category admission selection meeting is not held until the fourth week of July when registration is already in progress for Asper School students.
- iii) Uncertainty, to prospective students, about their chances for admission to the faculty and anxiety about student standing, transfer credit and registration.
- iv) The update to student histories as the process of evaluation of student standing and transfer credit is not started until the admission is complete and when the admission status is completed the Undergraduate Program Office can not process due to on-going registration. This creates a frustrating situation for both students and staff; students need the evaluations to register and the complete evaluation of student standing is held up because of registration.

The identified **benefits** of modifying the current processes include:

- i) The admission decisions would be completed prior to the start of the registration period.
- ii) Completing the admission decisions earlier could mean keeping good students in Manitoba because an earlier decision would give less opportunity for a student to choose an offer from another business school.
- iii) The committee did not see any loss of value in dropping the number of elective credit hours needed for admission as students are permitted to complete the requirements on a part-time basis and the core qualifying courses are not being altered.
- iv) Reducing the number of elective credit hours and requiring all courses to be completed by April 30 (the application deadline is typically May 1) still gives students an opportunity to modify their course selection in the winter term, should they need to repeat a qualifying 3 credit hour course from the fall term.

We believe this proposal would better serve our prospective students as their admission outcome and academic standing can be determined in advance of the registration period, thereby reducing the uncertainty, stress and frustration surrounding the admission and subsequent registration processes.

## Recommendations

The Senate Committee on Admissions recommends to Senate that, effective for the 2008-2009 (i.e., 200890) intake, the admission requirements in the Asper School of Business are changed as follows:

To be considered for admission, applicants must satisfactorily complete the qualifying year requirements as listed below by the end of the fall/winter session (currently, by April 30 with document submission by early June) immediately preceding the September intake. Students must achieve a minimum grade of "C" on each course listed below.

**24 credit hours of qualifying courses** including:

Economics ECON 1200 (6)

Mathematics MATH 1520 or MATH 1500 (3)

Mathematics MATH 1310 or MATH 1300 (3)

Psychology PSYC 1200 or Sociology SOC 1200 (6)

A 3 or 6 credit hour course that satisfies the written English requirement

**3 credit hours of elective courses** if a 3 credit hour written English course was chosen

Respectfully submitted,  
Dr. D.R. Morphy, Chair  
Senate Committee on Admissions

Terms of reference: Senate Handbook (revised 1992), pp. 10.6-10.8

**Report of the Senate Committee on Admissions concerning a proposal from the Faculty of Agricultural and Food Sciences to modify its policy on transfer credit for University of Manitoba Agriculture Diploma graduates who apply for admission to the Faculty's degree programs (2006.10.12)**

**Preamble and Observations**

The School of Agriculture has been offering diploma programs for 100 years now. Each year, a number of graduates decide to extend their education beyond their diploma by moving on to a degree program within the Faculty of Agricultural and Food Sciences. Historically, top students could only receive 30 – 39 credit hours of transfer credit from their diploma into the degree program. Normally, these students do well in the degree program and some go on to pursue graduate degrees after that. In recognition of the quality of the diploma program and the realization that students graduating from this program have strengths and knowledge not currently acknowledged in the transfer articulation, a sub-committee of the School of Agriculture's Diploma Council brought forward a proposal for a '2+2' agreement which would allow a diploma graduate to complete a degree program in an additional 60 credit hours. This proposal has been approved by Diploma Council, by Curriculum Committee and by Faculty Council of the Faculty of Agricultural and Food Sciences.

The diploma program curriculum was reviewed to determine which courses could be considered equivalent and which combination of courses would fulfil the requirement of required courses in the degree programs. In this way, the equivalent of 60 credits of transfer was identified. In addition, it was considered to be reasonable to waive the six credit hour biology requirement, for the Agribusiness students only, in recognition of the courses taken in the diploma program, and to waive the six credit hour economics requirement for only the Agroecology, Agronomy, and Animal Systems student on the basis that they would have covered sufficient content with the required diploma courses.

The Food Science and Plant Biotechnology programs were considered and deemed ineligible for the '2+2' proposal due to the nature of the degrees.

**Recommendation**

The Senate Committee on Admissions recommends to Senate that, effective retroactively for the 2005-2006 intake, the Faculty of Agricultural and Food Sciences may give 60 credit hours of transfer credit to School of Agriculture diploma graduates with a minimum GPA of 3.0 when they apply for and are admitted to studies in the following degree programs: Bachelor of Science (Agribusiness), Bachelor of Science (Agroecology), Bachelor of Science (Agriculture) – Agronomy or Animal Systems. Transfer of course equivalents as per the current transfer agreement would occur with the associated grade. Credits which would transfer as unallocated would be referred to as unallocated and would not have a grade associated.

It is emphasized that only Agriculture Diploma graduates from the University of Manitoba with a minimum GPA of 3.0 would be eligible for this transfer. Other students would have their transcript evaluated on a course-by-course basis as is the current procedure.

Respectfully submitted,  
Dr. D.R. Morphy, Chair  
Senate Committee on Admissions

Terms of reference: Senate Handbook (revised 1992), pp. 10.6-10.8

**Comments of the Senate Executive Committee:**

The Senate Executive Committee endorses - 205 -  
the report to Senate.

**THE FORMAL PROGRAM PROPOSAL**

Institution Submitting the Formal Program Proposal: University of Manitoba

Title of Proposed Program: Bachelor of Science in Geological Sciences (General)

Faculty/Department in which the Proposed Program will be located:  
Clayton H. Riddell Faculty of Environment, Earth, and Resources

Name of Person(s) responsible for the Program:  
Dr. Leslie King, Dean

Credential to be Offered: B.Sc. G.Sc. (Gen.)

Date of Program Implementation: September 2007

\_\_\_\_\_  
President's/Rector's Signature

\_\_\_\_\_  
Date

Date Received by Council on Post-Secondary Education: \_\_\_\_\_

Comments of the Senate Executive Committee:

The Senate Executive Committee endorses  
the report to Senate.

## Section 1: Program Description

### 1. Describe the program, including each area of concentration, as it would appear in a catalogue.

The Clayton H. Riddell Faculty of Environment, Earth, and Resources offers the following programs leading to the Bachelor of Science in Geological Sciences:

B.Sc. G.Sc. (General) (PROPOSED FOR INTRODUCTION)

Other degree programs currently available include 4 year programs in

B.Sc. G.Sc. - Geology (Major)  
B.Sc. G.Sc. - Geology (Honours)

B.Sc. G.Sc. - Geophysics (Major)  
B.Sc. G.Sc. - Geophysics (Honours)

**Department of Geological Sciences Head:** Nancy Chow, Ph.D.

**Department Office:** 240 Wallace Building

**Telephone:** 474-9677

#### Program Information

The three-year General program in Geological Sciences is designed to give students a basic understanding of the discipline in combination with a concentration of courses in a second subject area. **The General Program is not intended for those students who seek a career in the geosciences.** Rather it is a useful consideration for students planning to enter the Bachelor of Education program (see Faculty of Education in this calendar) or other programs which require an undergraduate degree for admission. Students intending to pursue a career in the geosciences or graduate study should hold an Honours or Major degree (comprising at least 120 credit hours) in Geology or Geophysics.

#### i) Structure of the B.Sc. G.Sc. (Gen.) Degree Program

- A Geological Sciences component consisting of a minimum of 30 credit hours.
- A minor concentration of 18 credit hours (minimum) in a different department or an interdisciplinary program. In general, this will normally correspond to a minor as structured by a specific department or program, e.g. in the Clayton H. Riddell Faculty of Environment, Earth, and Resources, or the Faculty of Arts, or the Faculty of Science.
- Students will normally have completed University 1 requirements, which include 6 credit hours from the Faculty of Arts, 6 credit hours from the Faculty of Science and 6 credit hours from either Arts, Science or the Clayton H. Riddell Faculty of Environment, Earth, and Resources. Students who have not met these requirements while in University 1, must meet the requirements prior to graduation.

To qualify for the degree, students must complete 90 credit hours, inclusive of Geological Sciences courses, a minor in a second department or program, and any University 1 requirements. Minimum performance requirements include passing grades ("D" or better) in each course, a minimum degree grade point average of 2.00 in Geological Sciences courses, and an overall degree grade point average of 2.00 on the 90 credit hours which constitute the degree. Note: Where a Geological Sciences course

listed in the calendar has required prerequisites, a student must hold a minimum grade of "C" in each prerequisite course.

ii) **Admission Requirements (Table 1)**

To be admitted to the General program, a student must have completed at least 24 credit hours with a minimum Cumulative Grade Point Average of 2.00. In addition, a student must have a minimum of 2.00 ("C" average) on 6 credit hours of introductory Geological Sciences courses (Table 3).

**High School Requirements**

It is important to note that the equivalent of Manitoba 40S Chemistry or CHEM 0090 will be required to proceed in the program as GEOL 2540 stipulates this course as a prerequisite.

**Table 1**

<i>Summary of Requirements for entry to the B.Sc. in Geological Sciences (General)</i>			
<b>Minimum credit hours for entry</b>	<b>Minimum Cumulative GPA for entry</b>	<b>Maximum No. of Failed/Repeated Courses</b>	<b>Geological Sciences introductory courses</b>
24	2.00	n/a	Grade of "C" on 6 credit hours of Geological Sciences introductory courses

iii) **Minimum Performance for Continuation and Graduation**

**Table 2**

<b>Minimum Performance Requirements: B.Sc. Geological Sciences (General)</b>	
<b>Minimum Performance GPA for Continuation:</b>	<b>2.00 Degree Grade Point Average</b>
<b>Minimum Performance GPA for Graduation:</b>	2.00 on 90 credit hours constituting the degree (Degree Grade Point Average)  AND  2.00 Grade Point Average in Geological Sciences courses

**Minimum Performance Requirements for Continuation and Graduation**

A student's academic performance is assessed first with his/her application for admission to the Clayton H. Riddell Faculty of Environment, Earth, and Resources and then following each *term* in which the student is registered. To be in good standing, a student must achieve the minimum standard Degree Grade Point Average of 2.00 outlined for the General degree in Table 2. Geological Science students do not have a limit on the number of failed/repeated courses, but must meet a minimum Degree grade point average as specified in Table 2. Students are subject to the University of Manitoba regulations on repeating a course (see General Academic Regulations and Policy, Repeating a Course) and the Clayton H. Riddell Faculty of Environment, Earth, and Resources regulations with regard to eligibility to repeat a course. Students are normally permitted to repeat the same or equivalent course once and should contact the Faculty student advisor.

**Residency Requirement**

Students must complete a total of 48 credit hours at the University of Manitoba, or they must complete their final 30 credit hours at the University of Manitoba in order to satisfy the residency requirement.

## Dean's Honour List and Graduating with Distinction

### Dean's Honour List

Students enrolled in a minimum of 12 credit hours of coursework during a term and who achieve a term Grade Point Average of 3.50 or higher will be placed on the Dean's Honour List.

### With Distinction

Students graduating with the B.Sc. Geological Sciences (General) degree will have their degree granted With Distinction if they have a minimum degree Grade Point Average of 3.50.

## iv) Program Chart for the Bachelor of Science in Geological Sciences (General)

**Table 3**

GENERAL - 90 credit hours (30 credit hours in Geological Sciences)		
University 1	YEAR 2	YEAR 3
GEOL 1340 <sup>1</sup> or GEOL 1440 plus one of GEOL 1350, GEOL 1360, or GEOL 1370 with a minimum grade of "C".	GEOL 2540 <sup>2</sup> plus a further 21 credit hours in Geological Sciences numbered at the 2000-level and above	
A minimum grade of "C" on 6 credit hours from a second department or program for a minor <sup>3</sup>	A further 12 credit hours for the minor at the 2000-level or above <sup>4</sup>	
Meet any University 1 requirements <sup>5</sup>		
It is recommended that students complete the M and W course in University 1 or Year 2.		
Notes:		
<sup>1</sup> GEOL 1340 is recommended for students wishing to take any Geological Sciences program. This course contains a lab component which will ease a student's transition to advanced level courses.		
<sup>2</sup> GEOL 2500 may be used in lieu of GEOL 2540. Manitoba 40S Chemistry, CHEM 0090 or equivalent is a prerequisite for GEOL 2540 and GEOL 2500. CHEM 1300 is highly recommended and should be taken in U1.		
<sup>3</sup> Students should determine their minor prior to the end of the Year 2 of the program.		
<sup>4</sup> A minor will normally correspond to a Minor as outlined in a program chart for a specific department or program, e.g. refer to program charts for departments in the Clayton H. Riddell Faculty of Environment, Earth, and Resources, or in the Faculty of Arts, or in the Faculty of Science.		
<sup>5</sup> Any U1 requirements not met in Year 1 must be completed before graduation.		

## 2. Where possible, list the courses (title, number, semester credit hours, and catalogue description) that would constitute the requirements and other components of the proposed program. Indicate which courses are currently offered and which will be new.

The following represents courses in the Geological Sciences (General) program that comprise the required "major" courses in the proposed degree. Students can complete the "minor" in another program/department offering this option (e.g., as available in the Clayton H. Riddell Faculty of Environment, Earth, and Resources, Arts, Science, etc.).

**GEOL 1340 The Dynamic Earth Cr.Hrs.3 (Lab Required)** (Formerly 007.134) An introduction to dynamics of the Earth's interior and surface that created the environment in which life evolved and that continue to change the world in which people now live. Taught with GEOL 2250. Not to be held with GEOL 1440 (or 007.144), GEOL 2250 (or 007.225) or

- the former 007.123, 007.124, 007.127, 007.132, or 007.133. Recommended for students intending to proceed in further courses in the Geological Sciences.
- GEOL 1350 The Evolving Earth Cr.Hrs.3** (Formerly 007.135) An introduction to interpretation of the geologic record, with a survey of the Earth's origin and evolution, its life, and resources through time. Not to be held with the former 007.123, 007.126 or 007.133. *Prerequisite:* one of GEOL 1340 (or 007.134), GEOL 1440 (or 007.144), GEOL 2250 (or 007.225) (or the former 007.124, 007.127, or 007.132).
- GEOL 1360 Environmental Earth Science Cr.Hrs.3** (Formerly 007.136) An integrated approach to environmental Earth Science. The effect of Earth's internal processes on the external processes in the atmosphere and hydrosphere. Topics include: the water cycle, weather, climate and climate development, and pollution. Not to be held with the former 007.132. *Prerequisite:* A minimum grade of C in one of GEOL 1340 (or 007.134), GEOL 1440 (or 007.144), or GEOL 2250 (or 007.225) (or the former 007.123, 007.124, 007.126, or 007.133).
- GEOL 1370 The Earth in Space Cr.Hrs.3** (Formerly 007.137) An introduction to astronomy and its emphasis on the Planet Earth and its place in the solar system. The Earth's oceans and atmosphere are covered and compared to those of the Earth's nearest neighbours and to some moons of the outer planets. Not to be held with the former 007.124. *Prerequisite:* A minimum grade of C in one of GEOL 1340 (or 007.134), GEOL 1440 (or 007.144), or GEOL 2250 (or 007.225) (or the former 007.123, 007.125, 007.132, or 007.133).
- GEOL 1440 Introduction to the Dynamic Earth Cr.Hrs.3** (Formerly 007.144) A non-laboratory introduction to dynamics of the Earth's interior and surface that created the environment in which life evolved and that continue to change the world in which people now live. Not to be held with GEOL 1340 (or 007.134), GEOL 2250 (or 007.225) (or the former 007.123, 007.124, 007.126, 007.127, 007.132, or 007.133).
- GEOL 2060 Introductory Geophysics Cr.Hrs.3 (Lab Required)** (Formerly 007.206) An introduction to geophysical exploration, Earth physics, satellite geophysics and remote sensing. Emphasis will be on quantitative modeling and will include geophysical measurements and handling of data. *Prerequisites:* A minimum grade of C in GEOL 1340 (or 007.134) or GEOL 1440 (or 007.144) (or the former 007.123, 007.124, 007.132, or 007.133), three credit hours from MATH 1300 (or MATH 1301) (or 136.130), MATH 1310 (or 136.131), MATH 1500 (or MATH 1501) (or 136.150), MATH 1510 (or 136.151), MATH 1520 (or 136.152), MATH 1530 (or 136.153), and three credit hours from PHYS 1020 (or PHYS 1021) (or 016.102) or PHYS 1050 (or PHYS 1051) (or 016.105); or consent of department.
- GEOL 2390 Environmental Geology Cr.Hrs.3** (Formerly 007.239) Examination of geological processes and material as they interact with human activities, environmental planning, and management. Also available by correspondence. *Prerequisite:* A minimum grade of C in university geology or GEOG 1290 or GEOG 1291 (or 053.129) (or GEOG 1200 or GEOG 1201 (or 053.120)), or consent of instructor.
- GEOL 2440 Structural Geology 1 Cr.Hrs.3 (Lab Required)** (Formerly 007.244) Elementary mechanical principles of rock deformation, brittle and continuous deformation, geometry of faults, folds, joints, cleavage, lineations. Descriptive geometric and stereonet solution to structural geology problems, cross sections, structural contour maps. *Prerequisite:* A minimum grade of C in GEOL 1340 (or 007.134) or GEOL 1440 (or 007.144) (or the former 007.123, 007.124, 007.132, or 007.133).
- GEOL 2500 Introduction to Mineralogy Cr.Hrs.3 (Lab Required)** (Formerly 007.250) An introduction to the chemistry, physics and classification of minerals. Brief, systematic description of about 200 of the most important minerals. Laboratory: hand specimen identification. Not to be held with GEOL 2540 or the former 007.207 or 007.262. *Prerequisite:* 40S Chemistry or CHEM 0900 (or 002.090) and A minimum grade of C in one of GEOL 1340 (or 007.134) or GEOL 1440 (or 007.144) (or the former 007.123, 007.124, 007.132, or 007.133) or consent of department. CHEM 1300 (or 002.130) is highly recommended.
- GEOL 2520 Igneous and Metamorphic Petrology Cr.Hrs.3 (Lab Required)** (Formerly 007.252) The classification, occurrence and origin of igneous and metamorphic rocks. The study and identification of rocks using hand specimens and thin sections. Not to be held with the former 007.251. *Prerequisite:* A minimum grade of C in GEOL 2500 (or 007.250) (or the former 007.207 or 007.262) plus GEOL 2800 (or the former 007.260), or GEOL 2540.

- GEOL 2530 Introductory Sedimentary Petrology and Stratigraphy Cr.Hrs.3 (Lab Required)**  
(Formerly 007.253) An introduction to sedimentary deposits and principles of stratigraphic analysis. Occurrence, classification and origin of sedimentary deposits. Facies concept, stratigraphic classification and correlation. Not to be held with the former 007.251, 007.388 or 007.389. *Prerequisite:* A minimum grade of C in GEOL 2500 (or 007.250) (or the former 007.207 or 007.262) plus GEOL 2800 (or the former 007.260), or GEOL 2540.
- GEOL 2540 Introductory Mineralogy with Essentials of Mineral Optics Cr.Hrs.3 (Lab Required)**  
An introduction to the chemical composition, crystal structure, physical and optical properties of the most common minerals. Discussion of the occurrence of minerals in nature. Laboratory: Identification of minerals in hand specimens and thin sections. Not intended for students in Major or Honours Geology programs. Not to be held with GEOL 2500 (or 007.250). *Prerequisites:* 40S Chemistry or CHEM 0900 (or 002.090) or equivalent and a minimum grade of C in one of GEOL 1340 (or 007.134) or GEOL 1440 (or 007.144) (or the former 007.123, 007.124,) or consent of department. CHEM 1300 (or CHEM 1301) (or 002.130) is highly recommended.
- GEOL 2570 Energy and Mineral Resources Cr.Hrs.3** (Formerly 007.257) An introduction to the geological factors and processes responsible for the origin, concentration and distribution of fuels, geothermal resources, metallic and nonmetallic minerals. Available by correspondence only. Not to be held with the former 007.255 or 007.256. Not for credit in a Major or Honours program in Geological Sciences. *Prerequisite:* A minimum grade of C in one of GEOL 1340 (or 007.134) or GEOL 1440 (or 007.144) (or the former 007.123, 007.124, 007.132, or 007.133).
- GEOL 2770 Principles of Inorganic Geochemistry Cr.Hrs.3 (Lab Required)** (Formerly 007.277)  
The cosmic abundance of the elements, nucleosynthesis, geological differentiation of the elements; chemical petrology of igneous, metamorphic and sedimentary rocks. An introduction to aqueous and low-temperature geochemistry. Not to be held with the former 007.276. *Prerequisite:* A minimum grade of C in GEOL 2500 ( or 007.250) or GEOL 2540 (or the former 007.207, or 007.262). Corequisite: CHEM 1300 (or CHEM 1301) (or 002.130).
- GEOL 2800 Optics and Spectroscopy of Minerals Cr.Hrs.3 (Lab Required)** Use of the petrographic microscope; microscopic recognition of common rock-forming minerals; introduction to spectroscopic techniques in geosciences (including optical, vibrational and luminescence techniques). Not to be held with the former 007.260. *Prerequisite:* A minimum grade of C in GEOL 2500 (or 007.250) or GEOL 2540 or consent of department.
- GEOL 3110 Petrogenesis of Igneous Rocks Cr.Hrs.3 (Lab Required)** (Formerly 007.311)  
Crystallization processes in magma and resultant textures; physical, chemical, and kinetic processes of magmatic systems. Not to be held with the former 007.309 or 007.344. *Prerequisites:* A minimum grade of C in GEOL 2520 (or 007.252) (or the former 007.251) and GEOL 2770 (or 007.277) (or the former 007.276).
- GEOL 3140 Gemology Cr.Hrs.3 (Lab Required)** (Formerly 007.314) An introduction to the scientific study of natural and synthetic gem materials, methods of their identification and principles of gemstone appraisals. Laboratory: identification of gemstones using optical methods. Offered in 2006-2007 and alternate years thereafter. *Prerequisites:* A minimum grade of C in GEOL 2500 (or 007.250) plus GEOL 2800 (or the former 007.260), or GEOL 2540 .
- GEOL 3290 Metamorphism, Structure and Tectonics Cr.Hrs.3 (Lab Required)** (Formerly 007.329)  
Deformation and metamorphism in orogenic terranes, crustal heat flow, and the application of pressure, temperature and time paths to study metamorphic equilibria. Offered in 2006-2007 and in alternate years thereafter. Not to be held with the former 007.312 and 007.373. *Prerequisite:* A minimum grade of C in GEOL 2440 (or 007.244), GEOL 2520 (or 007.252), and GEOL 2770 (or 007.277).
- GEOL 3310 Paleontology Cr.Hrs.3 (Lab Required)** (Formerly 007.331) The study of fossils: invertebrate paleontology, with an introduction to paleontologic principles, vertebrate paleontology, and paleobotany. *Prerequisite:* A minimum grade of C in GEOL 1340 (or 007.134) or GEOL 1440 (or 007.144) (or the former 007.123, 007.124, 007.132, or 007.133,) or consent of department.
- GEOL 3420 Engineering Geology Cr.Hrs.3** (Formerly 007.342) Engineering properties of rocks, laboratory testing and site investigations in engineering geology. Rocks as construction materials, engineering geology of tunnels, bridges, dams, reservoirs, shorelines, sanitary landfills, landslides, seismic risk areas, etc. Offered in 2006-2007 and in alternate years

thereafter. *Prerequisites:* A minimum grade of C in GEOL 2440 (or 007.244), GEOL 2520 (or 007.252) and GEOL 2530 (or 007.253) (or the former 007.251, 007.388 or 007.389).

- GEOL 3490 Glacial Geology and Geomorphology Cr.Hrs.3 (Lab Required)** (Formerly 007.349) Principles of landform development with emphasis on glacial deposition. Aerial photo and map interpretation in lab. Not to be held with GEOG 3580 (or 053.358). *Prerequisite:* A minimum grade of C in GEOL 2530 (or 007.253) (or the former 007.251, or 007.388 or 007.389).
- GEOL 3740 Exploration Seismology Cr.Hrs.3 (Lab Required)** (Formerly 007.374) Collection of seismic data (land and sea); simple elastic wave theory; geometry of refraction and reflection seismology; rock velocity determination; seismic noise and signal; data corrections; data enhancement techniques; representation of data; survey procedures. *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206) and one of MATH 1500 (or MATH 1501) (or 136.150), MATH 1510 (or 136.151), MATH 1520 (or 136.152), MATH 1530 (or 136.153) or MATH 1690 (or 136.169).
- GEOL 3750 Geology and Geophysics of the Planets Cr.Hrs.3 (Lab Required)** (Formerly 007.375) Physical and chemical nature of the inner and outer planets and their satellites, asteroids and meteorites. The application of geophysical, geochemical and petrological techniques to planetology; remote sensing study of geological features of planetary surfaces and atmospheres. Offered in 2007-2008 and in alternate years thereafter. *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206) or consent of department.
- GEOL 3810 Applied Geophysics Cr.Hrs.3 (Lab Required)** (Formerly 007.381) The application of geophysical methods including gravity, magnetics, seismic reflection and refraction, electrical and electromagnetics methods in exploration, and environmental and engineering problems. Not to be held with the former 007.380. *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206).
- GEOL 3900 Sedimentology Cr.Hrs.3 (Lab Required)** (Formerly 007.390) The study of depositional environments of sedimentary rocks. Facies analysis and modelling of sedimentary deposits. Not to be held with the former 007.388 or 007.389. *Prerequisite:* A minimum grade of C in GEOL 2530 (or 007.253) (or the former 007.251).
- GEOL 3910 Introduction to Field Mapping Cr.Hrs.3** (Formerly 007.391) Twelve day course introducing field mapping techniques including field navigation and basic field interpretations. Students are responsible for costs of room and board during the field course. Offered in Summer 1 term. May not hold with the former 007.449. *Prerequisites:* A minimum grade of C in GEOL 2440 (or 007.244), GEOL 2520 (or 007.252) and GEOL 2530 (or 007.253).
- GEOL 4250 Theory and Application of Geophysical Inversion Methods Cr.Hrs.3 (Lab Required)** (Formerly 007.425) Introduction to generalized and linear/non-linear inversion theory. Inversion techniques for the potential field, electrical and seismic data will be discussed. Application to global problems will also be discussed. Offered in 2007-2008 and in alternate years thereafter. *Prerequisites:* A minimum grade of C in GEOL 2060 (or 007.206) and MATH 2100 (or 136.210) or MATH 1300 (MATH 1301) (or 136.130) or MATH 1310 (or 136.131).
- GEOL 4260 Applied Geophysics Field Course Cr.Hrs.3** (Formerly 007.426) One and one-half weeks field instruction in the planning and execution of geophysical surveys and the use of portable geophysical instruments. Offered in 2007 Summer 2 term and alternate years thereafter. Taught with the first half of GEOL 4740 (or 007.474). Not to be held for credit with GEOL 4740 (or 007.474). *Prerequisite:* A minimum grade of C in GEOL 3810 (or 007.381) (or the former 007.380).
- GEOL 4270 Advanced Studies in Earth Sciences Cr.Hrs.3** (Formerly 007.427) Advanced study in a selected subject in Earth sciences. *Prerequisite:* Consent of department.
- GEOL 4280 Instrumental Techniques in Geology Cr.Hrs.3 (Lab Required)** (Formerly 007.428) Lecture and laboratory course covering the application of microbeam, mass spectrometer, diffraction and wet geochemical analytical techniques in mineralogy and geochemistry. Includes coverage of ICP, PIXE, powder and single crystal diffraction and electron microprobe analysis. Offered in 2007-2008 and in alternate years thereafter. *Prerequisites:* A minimum grade of C in GEOL 2520 (or 007.252) (or the former 007.251), GEOL 2530 (or 007.253) (or the former 007.251, 007.388 or 007.389), and GEOL 2770 (or 007.277) (or the former 007.276).

- GEOL 4290 Topics in Environmental Geoscience Cr.Hrs.3 (Lab Required)** (Formerly 007.429) Advanced concepts and discussion of selected topics in the areas of human interaction with the geological environment and the influence of natural geological processes on human activities. Offered in 2007-2008 and in alternate years thereafter. Corequisite: GEOL 3900 (or 007.390).
- GEOL 4300 Mineral Deposits Cr.Hrs.3 (Lab Required)** (Formerly 007.430) The tectonic setting and deformational and structural nature of ore deposits. The physics and chemistry of ore deposition and ore bearing fluids. The mineralogical, textural and environmental constraints on resource exploitation. Not to be held with the former 007.424 or 007.434. *Prerequisites:* A minimum grade of C in GEOL 3110 (or 007.311) (or the former 007.309), and GEOL 3900 (or 007.390) (or the former 007.388 or 007.389).
- GEOL 4310 Paleontologic Principles Cr.Hrs.3 (Lab Required)** (Formerly 007.431) Interpretation of Earth history using fossils: topics in taxonomy, functional morphology, paleoecology, evolution, biostratigraphy, and biogeography. Offered in 2006-2007 and in alternate years thereafter. *Prerequisite:* A minimum grade of C in GEOL 3310 (or 007.331) or consent of instructor.
- GEOL 4320 Physics of the Earth: Seismology and Heat Flow Cr.Hrs.3** (Formerly 007.432) Seismology and the structure, physical properties and equations of state of the Earth's interior; thermal constitution and the history of the Earth. Offered in 2006-2007 and in alternate years thereafter. *Prerequisites:* A minimum grade of C in GEOL 2060 (or 007.206) and (PHYS 2390 and PHYS 2490) (or the former 016.237).
- GEOL 4330 Physics of the Earth: Geomagnetism and Gravity Cr.Hrs.3** (Formerly 007.433) Geomagnetism and geoelectricity; paleomagnetism; figure, rotation and gravity of the Earth. Offered in 2006-2007 and in alternate years thereafter. *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206) and (PHYS 2390 and PHYS 2490) (or the former 016.237).
- GEOL 4370 Global Change Cr.Hrs.3** (Formerly 007.437) Examination of the major processes controlling global change through time. The causes, magnitude, and periodicity of changes in the geological record resulting from the variability and interaction of continents, oceans, atmospheres, climate, Earth-sun relationships, and ice sheets, with an emphasis on paleoclimate. Offered in 2007-2008 and in alternate years thereafter. *Prerequisite:* A minimum grade of C in GEOL 3900 (or 007.390). Corequisite: GEOL 3490 (or 007.349).
- GEOL 4520 Petroleum Geology Cr.Hrs.3 (Lab Required)** (Formerly 007.452) A study of the physical properties, origins and maturation, migration, and accumulation of petroleum products. *Prerequisite:* A minimum grade of C in GEOL 3900 (or 007.390).
- GEOL 4630 Geolimnology Cr.Hrs.3** (Formerly 007.463) The major physical, geochemical, sedimentological, and hydrogeological processes in lakes and their watersheds. A multidisciplinary course. Offered in 2006-2007 and in alternate years thereafter. *Prerequisites:* A minimum grade of C in GEOL 2770 (or 007.277) or university chemistry and geology or consent of instructor.
- GEOL 4660 Volcanology Cr.Hrs.3 (Lab Required)** (Formerly 007.466) Physical volcanology with special reference to Cenozoic and Precambrian volcanism. Petrography of Cenozoic volcanic rocks. Offered in 2007-2008 and in alternate years thereafter. *Prerequisites:* A minimum grade of C in GEOL 3110 (or 007.311) (or the former 007.309) and GEOL 3900 (or 007.390) (or the former 007.388 or 007.389).
- GEOL 4670 Global Tectonics Cr.Hrs.3 (Lab Required)** (Formerly 007.467) The structure and properties of, and physical processes taking place within, the Earth's interior. Continental cratons and their margins, orogenic belts, structural and petrologic features of the ocean basins, modern diastrophism, global tectonic theories. *Prerequisites:* A minimum grade of C in GEOL 2440 (or 007.244), GEOL 2520 (or 007.252) and GEOL 2530 (or 007.253) (or the former 007.251, 007.388 or 007.389).
- GEOL 4740 Geophysics Field Course Cr.Hrs.6** (Formerly 007.474) Three weeks of making geophysical surveys. Starts immediately following April examinations. Maps and reports to be submitted at the end of the three- week period. Students are responsible for costs of room and board during the field course. Offered in 2007 Summer 1 term and in alternate years thereafter. Not to be held with GEOL 4260 (or 007.426). *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206).

- GEOL 4810 Geophysical Data Analysis Cr.Hrs.3 (Lab Required)** (Formerly 007.481) The theory and application of spectral methods in geophysics. The use of Fourier Transforms, convolution, power spectra, coherence, transfer functions, covariance, correlation and filtering. Offered in 2007-2008 and in alternate years thereafter. *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206). *Corequisite:* MATH 3110 (or 136.311) or MATH 3700 (or 136.370).
- GEOL 4830 Remote Sensing and Geological Information Systems Cr.Hrs.3 (Lab Required)** (Formerly 007.483) The basic theory and application of remote sensing to geology and planetary studies. Data interpretation, analysis and presentation using geological information systems. *Prerequisite:* A minimum grade of C in GEOL 2060 (or 007.206).
- GEOL 4890 Basin Analysis Cr.Hrs.3 (Lab Required)** (Formerly 007.489) The study of major sedimentary basins. Qualitative and quantitative aspects of basin origin, classification, evolution, fluid content and diagenesis, and sedimentary facies architecture. Not to be held with the former 007.488. *Prerequisite:* A minimum grade of C in GEOL 4520 (or 007.452).
- GEOL 4910 Advanced Field Mapping Cr.Hrs.3** (Formerly 007.491) Twelve day course developing field mapping techniques including independent mapping and interpretation and synthesis in complex geological terrains. Students are responsible for costs of room and board during the field course. May not hold with the former 007.449. Offered in iSummer 1 term. *Prerequisite:* A minimum grade of C in GEOL 3910 (or 007.391).

### 3. Outline the educational objectives of the program.

The objective of a three-year General program in Geological Sciences is to provide students a basic understanding of the discipline in combination with a degree of depth in a second subject area. While in the Faculty of Science, a concentration in Geological Sciences courses was available to students enrolled in the Bachelor of Science General program. With the creation of the Clayton H. Riddell Faculty of Environment, Earth, and Resources, students no longer had any way to get a concentration in the Geological Sciences, other than through four-year Honours or Major programs in Geological Sciences. Therefore another objective of this new General program is to re-establish an option for students which has been removed through this administrative change.

### 4. Describe the expected learning outcomes in terms of skills, knowledge, attitudes or other attributes which students will accrue as a result of their involvement in the proposed program.

A three-year General program with a major concentration in the Geological Sciences and a minor in a teachable subject area would meet the needs of a student planning to enter the Bachelor of Education program. The General program would also suit students seeking a degree for general interest, students attempting to qualify for a professional faculty, or students seeking a level of formal education for advancement in their careers. For students seeking a degree by distance delivery, 80% of the B.Sc. G.Sc. (General) program can be completed with courses selected from the University's current distance education offerings. Mature students or students with limited background in the sciences can enter this program provided they hold Chemistry 40S or Preparatory Chemistry CHEM 0900.

However, the program is not intended for students seeking a career in the geosciences. The main educational route to the geoscience profession remains either the Honours or Major program (Geology or Geophysics). This will be clearly stated in the University General Calendar and in the Admissions Bulletin.

**5. If applicable, describe any selective admissions policy or specific criteria for students selecting this as a major field of study.**

There are no selective admissions policies. All students in the degree program will have the minimum Faculty admission requirements satisfied. The specific admission requirements are outlined in the Program Information section of this submission.

**6. Describe the extent to which this program is central to the institutional mission and planning priorities of the campus.**

The University of Manitoba has created the Clayton H. Riddell Faculty of Environment, Earth, and Resources, which brings together the expertise and resources to promote collaboration in the delivery of environmental training and research on campus. The Faculty has identified a gap in the availability of a three-year general program for those students who wish to have a concentration in the geological sciences without the need to complete the Major or Honours four year programs. The availability of the proposed degree program will serve two purposes by (i) streamlining the admission process for the Faculty and (ii) re-establishing the diversity in three year and four year degree programs in the geosciences which was reduced with the reorganization of the administrative structure and relocation of the department within the Clayton H. Riddell Faculty of Environment, Earth, and Resources.

**7. If a similar program exists or is in the process of being developed elsewhere in the province, describe the similarities or differences in the credential to be awarded, the area(s) of specialization, and the specific academic content of the program or course of study.**

Brandon University offers a three-year Major program in Geology. However, University of Manitoba is the only university in Winnipeg where students would be able to obtain a three-year program in Geological Sciences, including Geology but also Geophysics.

**SECTION II: Market Need and Market Demand for the Program**

**1. Where possible, state the specific local or provincial needs for graduates of the proposed program for the next 3 to 5 years. This should include projections of both ongoing and future demand in regions throughout Manitoba; as well as evidence and supporting data of market need for the program.**

It is anticipated that the 3-year Bachelor of Science in Geological Sciences (General) degree will be viewed similarly to a BA General degree or a BSc General degree in terms of meeting labour market needs. In most instances, it forms a necessary first step toward a particular occupation.

**SECTION III: Student Demand for the Program**

**1. What students is the program intended to serve?**

A three-year General program with a major concentration in the Geological Sciences and a minor in a teachable subject area would meet the needs of a student planning to enter the Bachelor of Education program. The General program would also suit students seeking a degree for general interest, students attempting to qualify for a professional faculty, or students seeking a level of formal education for advancement in their career. For students seeking a degree by distance delivery, 80% of the B.Sc. G.Sc. (General) program can be completed with courses selected from

the University's current distance education offerings. Mature students or students with limited background in the sciences can enter this program provided they hold Chemistry 40S or Preparatory Chemistry CHEM 0900. However, the program is not intended for students seeking a career in the geosciences. The main educational route to the geoscience profession remains either the Honours or Major program (Geology or Geophysics). This will be clearly stated in the University General Calendar and in the Admissions Bulletin.

## **2. What is the evidence that provincial students are not being adequately served within existing program offerings in Manitoba?**

When the Department of Geological Sciences resided in the Faculty of Science, a concentration in Geological Sciences courses was available to students enrolled in the Bachelor of Science General three-year program. With the administrative shift associated with the creation of the Clayton H. Riddell Faculty of Environment, Earth, and Resources, students no longer had this degree program option available to them. The proposed degree program will address this deficiency.

In addition to enhancing the options available to students, there is a need to simplify the admission criteria and processes for the Clayton H. Riddell Faculty of Environment, Earth, and Resources. The proposed degree program is intended to streamline the admission process for students considering the geosciences degree options (General; Major; Honours in either Geology or Geophysics).

## **3. Provide evidence of student interest and demand for the program.**

While the Department of Geological Sciences was in the Faculty of Science, its courses could be selected by students in the Bachelor of Science General program to meet the requirement of a concentration of courses in each of two Science departments. Students in the General program do not formally declare a "Major" or a "Minor", so while statistics are available to reflect overall enrolment in the General program, there are no statistics that would indicate the number of General program students in any one Science department.

Figures are available for enrolment in the four-Year Major and Honours programs by department. The website for the University of Manitoba's Office of Institutional Analysis includes a table entitled Faculty of Science, Degree Program by Field of Study:

[http://umanitoba.ca/admin/institutional\\_analysis/isbook2003/students/enrolment/arts\\_sci\\_degree\\_03.pdf](http://umanitoba.ca/admin/institutional_analysis/isbook2003/students/enrolment/arts_sci_degree_03.pdf)

This table records enrolment figures by department as at November 1, 2002, approximately one year prior to the creation of the Clayton H. Riddell Faculty of Environment, Earth, and Resources. At that time, there were a total of 833 students in the four-year Major and Honours programs. There were 51 students in Major and Honours programs in Geological Sciences – i.e., 6.1% of the total number of Major and Honours students in the Faculty of Science.

There were a total of 1163 students in the three-year General program. If we apply the same percentage as calculated for the Major and Honours programs, we would get an estimated 71 students who were taking a concentration of courses in Geological Sciences to obtain their Bachelor of Science General degree.

## **4. What are the projected enrolments for the program?**

The anticipated enrolments for the degree program are expected to be around 50 students based on admission to the Clayton H. Riddell Faculty of Environment, Earth, and Resources. Many of these students are anticipated to move into the four-year Honours and Major programs in Geology and Geophysics so the

number of students who complete the General will only represent a small component, approximately 25% of the students in one of the Geological Sciences programs.

**5. Which programs currently offered by the institution are projected to lose enrolment to this program?**

We expect that students will be drawn from other three-year General degree programs, for example the three-year General as offered through the Faculties of Arts and Science. These students are expected to have an interest in the after-degree program offered through the Faculty of Education. Still others will be drawn from science-based programs where the conceptual knowledge acquired will be relevant to the geosciences professions.

**6. What are the proposed growth limits and minimum enrolments?**

It is expected that the program will grow sequentially as students acknowledge the availability of the degree. It is expected that it will reach a steady state in the next five years. We do not see a need to set enrolment caps now or in the future.

**7. Project the number of graduates for the first 3 to 5 years of the program and, where appropriate, the anticipated number of program majors (full-time and part-time) for each of the first five years of the program.**

The number of graduates will increase annually. By June, 2009 we expect that approximately 30 students will be graduating from this degree program (as indicated in the table below).

B.Sc. (Geological Sciences General) Projected Graduands	
Year 1	4
Year 2	10
Year 3	15

The expected student profile within the Geological Sciences degree programs is as follows:

Honours (Geology)	15%
Honours (Geophysics)	10%
Major (Geology)	40%
Major (Geophysics)	15%
General	20%

**8. What steps have been taken to ensure participation and success in the program by under-represented groups, such as women, the disabled, minorities and aboriginal students?**

The Clayton H. Riddell Faculty of Environment, Earth, and Resources considers the inclusion of under-represented groups a high priority and will participate in the promotion and advocacy of these individuals to the greatest extent possible. This includes active participation in programs such as "Campus Life Manitoba", Disability Services, and Aboriginal programs available on campus and through affiliations with off-campus Aboriginal organizations.

**9. Will the program be available to part-time learners?**

Yes. The program is designed to accommodate part-time and Distance Education learners. Students may also wish to use courses delivered by distance to obtain a minor of 18 credit hours (e.g., in Geography), and to obtain electives in the program.

## **SECTION IV: Faculty Requirements**

### **1. Provide a list of current faculty by rank and areas of expertise who will teach in the program.**

#### **Nancy Chow**

Professor and Head of Department

Ph.D., Memorial University of Newfoundland 1986

Sedimentology and stratigraphy

#### **Research Interests/Programs:**

- Sedimentology of Paleozoic carbonates
- Petroleum geology
- Stratigraphy and sedimentology of Paleozoic carbonates in the outcrop belt and subsurface of Manitoba
- Sedimentology of Devonian carbonates in the Alberta Basin and Canning Basin, Australia

#### **Anton Chakhmouradian**

Assistant Professor

Ph.D., St. Petersburg State University 1997

Mineralogy and crystallography

#### **Research Interests/Programs:**

- Igneous alkaline and carbonatitic rocks
- Actinides in ceramic waste-forms
- Magmatic and subsolidus processes in silicocarbonatites
- Crystal chemistry of phosphates, titanates and titanosilicates
- Ti, Zr, Nb, and REE minerals in kimberlites and carbonatites

#### **Robert J. Elias**

Professor

Ph.D., University of Cincinnati 1979

Paleontology

#### **Research Interests/Programs:**

- Coral faunas and environmental change during the Ordovician evolutionary radiation, end-Ordovician mass extinction, and Early Silurian recovery
- Paleobiology and biometrics of Ordovician corals
- Paleocological and paleoenvironmental reconstruction of Ordovician and Silurian units in Manitoba.

#### **Ian Ferguson**

Professor

Ph.D., Australian National University 1988

Crust and mantle geophysics; applied/environmental geophysics

#### **Research Interests/Programs:**

- Application of electromagnetic (EM) methods to investigate the Earth's crust and upper mantle

- Application of magnetotelluric (MT) methods to define the resistivity and tectonic structure of the lithosphere in Canada, especially in Precambrian terranes
- MT surveys to aid the modelling of GICs
- Electric currents induced on powerlines and pipelines during geomagnetic storms
- EM and other near-surface techniques to investigate a variety of environmental and groundwater targets: including saline contamination, garter snake dens, mine tailings, and iceberg scours

#### **Andrew Frederiksen**

Assistant Professor

Ph.D., University of British Columbia 2000

Crust and mantle geophysics

##### **Research Interests/Programs:**

- Seismic imaging and methods
- Geophysical computation and inverse theory
- Applications of inverse theory to seismic imaging and tomography
- Lithospheric tectonics and continental roots
- Anisotropic fabric in the crust and mantle

#### **Norman Halden**

Professor

Ph.D., University of Glasgow 1983

Environmental mineralogy and geochemistry; petrology and tectonics

##### **Research Interests/ Programs:**

- Geochemistry and petrology of magmatic systems
- Chemical zoning in Earth materials
- Analysis of trace element partitioning between minerals and trace element distribution within minerals
- Non-linear modelling of trace element zoning patterns
- Image analysis of mineral textures and rock fabrics
- Otolith microchemistry

#### **William Last**

Professor

Ph.D., University of Manitoba 1980

Sedimentology and Quaternary studies

##### **Research Interests/Programs:**

- Non-marine evaporite and carbonate sedimentology
- Clastic sedimentology and diagenesis
- Petrography, sedimentology and geochemistry of Mississippian and Jurassic sediments in SW Manitoba
- Sedimentology and diagenesis of lacustrine carbonates, Australia, Spain and Western Canada
- Sedimentology, stratigraphy and geochemistry of organic rich rocks of western Manitoba
- Sedimentology, geochemistry and stratigraphy of saline lakes in Saskatchewan, Alberta, North Dakota and Montana
- Quaternary paleolimnology of saline lakes in Australia

#### **Barbara Sherriff**

Professor

COPSE – B.Sc. G.Sc. (Gen.)  
05/18/2006

14

Ph.D., McMaster University 1988

Environmental mineralogy and geochemistry

**Research Interests/Programs:**

- Environmental mineralogy and geochemistry, particularly of waste rock and tailings from gold and base metal mines
- Study of archeological artifacts using geological techniques
- Nuclear magnetic resonance spectroscopic studies of atomic order in minerals

**James T. Teller**

Professor

Ph.D., University of Cincinnati 1970

Sedimentology and Quaternary studies

**Research Interests/Programs:**

- Quaternary geology
- Paleohydrology and climatic impact of North American proglacial lakes and rivers
- Reconstruction and re-evaluation of shorelines and outlets in the glacial Lake Agassiz basin
- Sedimentology and history of valley fills leading to glacial Lake Agassiz
- Paleohydrology of lacustrine systems in arid regions

**Jeffrey Young**

Instructor II

M.Sc., University of Manitoba 1992

Petrology

**Research Interests/Programs:**

- Gypsum rosettes in Lake Agassiz Clay: extraction and analysis of waters
- Lake of the Woods/ Whiteshell: Age dating of igneous intrusions and sedimentary sequences in the Western Superior

**2. Will the program involve the hiring of new faculty or staff? If yes, indicate which additional faculty are to be hired and describe their qualifications.**

There are no anticipated hires expected with the introduction of the degree program.

**SECTION V: Cooperative Arrangements**

**1. Describe the cooperative arrangements with other institutions and organizations that may be used to offer this program.**

The University of Manitoba has established opportunities for students to participate in international exchanges (e.g., Plymouth University) as well as articulation agreements etc. with other institutions.

**2. Will the credits of the proposed program be fully transferable (in terms of both the credit as well as the grade) to other institutions in Manitoba?**

Yes, similar to other courses offered at the University of Manitoba, for example in the Faculties of Arts and Science. Since most courses in the degree program have been available for several years, the transferability is well established.

**3. Does the program have an internship or practicum component? What attempts have been made to ensure that this program has both theoretical and applied modules?**

The Department of Geological Sciences offers field courses annually during the summer period. Students in the General degree program who have met the course requirements do have an opportunity to participate in these with departmental permission and space availability.

**4. What provisions will be made in the program to enable students to receive credit for relevant learning previously achieved outside of the Manitoba post-secondary education system?**

There is no formal mechanism to assess prior learning. The current "transfer of credit" process at the University of Manitoba allows each student entering the program to have previous relevant learning accessed on an individual basis to determine applicability to the degree. Through Distance Education and Extended Education, there is on-going negotiation and review of certificate programs and transfer of credit.

**SECTION VI: Learning Technologies**

**1. What use will be made in the program of modern learning technologies?**

Several courses are delivered through use of the Internet and WebCT. In addition, there are several that are delivered through Distance Education sections. The Clayton H. Riddell Faculty of Environment, Earth, and Resources intends to enhance Aboriginal educational opportunities in environmental education and is considering alternative course delivery methods through the assistance of Distance Education Division.

**SECTION VII: Resource Requirements**

**1. Describe the adequacy of existing library resources to support the proposed program. Indicate how the institution will overcome any deficiencies.**

The resources for this program already exist and are currently being supported at the University of Manitoba libraries. Library statements are available for new courses proposed in the program. Additionally the Science library has provided a statement indicating there are no additional resource implications.

**2. Are existing computer facilities adequate to support the new program?**

Yes. The Clayton H. Riddell Faculty of Environment, Earth, and Resources has a teaching laboratory which will be adequate for teaching purposes. The Faculty is currently undergoing an expansion and upgrade of its computer facilities. However, the success of this program is not dependent on this expansion.

**3. How will the proposed program impact on the use of existing infrastructure and equipment?**

The impact of the degree program will be minimal since the proposed general degree program is an extension of the other B.Sc. programs offered in the department. Facilities are available to accommodate for the modest changes in the curriculum and increased enrolment in the programs offered through the department.

**4. Describe any additional facilities, facility modifications, and equipment that may be required for the proposed program.**

There are none expected.

**SECTION VIII: Financial Considerations**

**1. What are the total financial resources required to offer this program? Include estimated initial and ongoing funding requirements.**

There are none expected. All resources are already in place to deliver the program.

**2. Of the financial resources required to offer this program, how much will come from a reallocation of existing funds and how much from new funds?**

None. The introduction of the degree program is envisioned to simply replace a program which was not made available to students as a result of administrative restructuring between Faculties in September 2004. Consequently, there are no financial implications to the department or Faculty with the introduction of the degree program.

**3. Discuss the internal reallocations of financial resources which will occur to support this program.**

This is not needed. The introduction of the degree program is not expected to result in any significant reallocation of resources.

**4. What percentage of program costs will be accrued through tuition fees?**

Revenues from tuition fees are approximately \$60,000 to \$100,000 annually (assuming enrolment of 15 to 25 students and tuition of \$4000/student).

**5. Discuss the impact of the program's estimated enrolment on the institution's overall tuition revenues.**

There are no anticipated impacts of the program's estimated enrolment on the institution's overall tuition revenues. The availability of the degree option will address administrative difficulties currently found in admission and will make available a degree option to students which was once available prior to September 2004. Therefore, the introduction of the degree is envisioned to result in a shuffling of some students between the Faculty of Science and Clayton H. Riddell Faculty of Environment, Earth, and Resources.

**6. How will the proposed program be funded if enrolment projections are not met?**

The General degree program will serve as the basis for admission to the Clayton H. Riddell Faculty of Environment, Earth, and Resources for the Geological Sciences programs (including not only the three year program but also the four year Geology and Geophysics programs in the Major and Honours). Consequently, we do not envision difficulty funding the degree program given the linkages between programs. Given that the infrastructure is already in place for delivery of most Geological Sciences programs, we do not anticipate any additional expenses associated with the delivery of the proposed three year General.

**SECTION IX: Program Consultations and Evaluation**

**1. What consultations have occurred with professional associations, employers, graduates of similar programs, and other educational institutions regarding this program?**

External liaison committees will provide ongoing feedback to assist in the evolution and modifications to the program in the future.

**2. Please provide evidence of academic quality by submitting reports from two similar institutions as well as from the relevant professional association(s), if appropriate.**

**3. Describe the procedures for institutional evaluation of the program during and subsequent to implementation.**

The proposed degree program will be submitted for consideration by the Senate Committee on Course and Curriculum Changes, the Senate Planning and Priorities Committee, as well as by Senate and the Board of Governors. Similar procedures will be followed in the proposal for revisions to the curriculum as required.

**Report of the Senate Committee on Curriculum and Course Changes on a Proposal for a Bachelor of Science in Geological Sciences (General) from the Clayton H. Riddell, Faculty of Environment, Earth, and Resources**

---

**Preamble**

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) is found in section 8.21 of the *Senate Handbook*, wherein SCCC is charged "to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula or courses".
2. The Senate Committee on Curriculum and Course Changes met on October 11, 2005, January 20, April 6 and October 27, 2006 to consider a proposal for a new degree program in the Clayton H. Riddell Faculty of Environment, Earth, and Resources: a Bachelor of Science in Geological Sciences (General).

**Observations**

1. The development of the proposal is a result of the creation of the Clayton H. Riddell Faculty of Environment, Earth, and Resources. Previously, while in the Faculty of Science, a concentration in Geological Sciences courses was available to students. Currently, students must be enrolled in the four-year Honours or Major programs in Geological Sciences in order to get a concentration in the Geological Sciences.
2. The degree comprises a major component of Geological sciences (30 credit hours), a minor concentration in a different department or interdisciplinary program (18 credit hours minimum), and completion of the requirements of University 1, which includes 6 credit hours from the Faculty of Arts, 6 credit hours from the Faculty of Science and 6 credit hours from either Arts, Science or the Clayton H. Riddell Faculty of Environment, Earth, and Resources.
3. The Committee discussed at great length the use of the Bachelor of Science credential. At this time there are no formal criteria for the number of credits required for a Science degree. The Committee believes this issue merits further examination independent of this program proposal.
4. A statement of support from the Libraries was received and indicates that the Libraries' collection is adequate to support the needs of the individual courses and the program as whole.
5. Letters of support were received from the Faculty of Science, the Faculty of Agricultural and Food Sciences, the Faculty of Arts, the Faculty of Engineering, and The Faculty of Education.

**Recommendation**

The Senate Committee on Curriculum and Course Changes recommends that the proposed Bachelor of Science Geological Sciences (General) in the Faculty of Environment be approved by Senate.

Respectfully submitted,

Professor J. Welsh, Chair  
Senate Committee on Curriculum and Course Changes

**Report of the Senate Planning and Priorities Committee on the proposal to introduce a Bachelor of Sciences in Geological Sciences (General) Program**

---

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found in the *Senate Handbook*, Section 8.32, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.
2. The Department of Geological Sciences has proposed a new program of studies leading to a B.Sc. (Gen) in Geological Sciences.
3. The Clayton H. Riddell Faculty of Environment, Earth, and Resources has approved the proposal put forward by the Department of Geological Sciences and it recommends that Senate approve this new degree program.

Observations

1. The proposed program seeks to provide a concentration in geological sciences courses to students "seeking a degree for general interest, students attempting to qualify for a professional faculty e.g. Bachelor of Education Program, students seeking a level of formal education for advancement in their career".
2. The proposed program fills a gap in program offerings which was created "with the administrative shift associated with the creation of The Clayton H. Riddell Faculty of Environment, Earth and Resources" a concentration (at the 3-year General degree level) in Geological Sciences was no longer available to students. This proposed degree program will address this gap.
3. The documentation for this proposal indicates that there are no new resources required for the program as it is "envisioned simply to replace a program which was not available to students as a result of administrative restructuring between Faculties in September 2004". The program projects sufficient revenue from enrollment to meet program costs.
4. Letters of support for the proposed program were received from the Faculties of Arts, Science, Agricultural and Food Sciences, and Education.
5. The Committee noted that the Library had indicated that no new resources were necessary to add to existing library holdings for the proposed.
6. The Committee raised a general concern about the continued development of three year bachelor programs which limit students' potential options for further graduate studies and which potentially use limited resources that could be used for four year programs of study and assist students in moving forward into

graduate education.

Recommendation

The SPPC recommends that:

Senate approve and recommend that the Board of Governors approve the proposed Bachelor of Sciences in Geological Sciences (General) Program.

Respectfully submitted,

Don Fuchs, Chair, Program and Curriculum Planning Sub-Committee  
Norman Hunter, Chair, Senate Planning and Priorities Committee

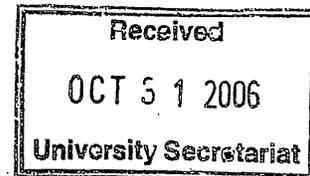
/jml



UNIVERSITY  
OF MANITOBA

OFFICE OF THE  
VICE-PRESIDENT (RESEARCH)

207 Administration Building  
Winnipeg, Manitoba  
Canada R3T 2N2  
Telephone (204) 474-6915  
Fax (204) 474-7568  
[www.umanitoba.ca/vpresearch](http://www.umanitoba.ca/vpresearch)



October 30, 2006

TO: Mr. Jeff Leclerc, University Secretary

FROM: Joanne C. Keselman, Vice-President (Research) and  
Chair, Senate Committee on University Research

SUBJECT: **Periodic Review of Research Centres and Institutes**

Attached please find a report which includes recommendations relating to the review of the Centre for Earth Observation Science which was conducted by the Senate Committee on University Research, according to *Policy 1405, Research Centres, Institutes and Groups*.

I would ask that you place this recommendation on the next agenda for Senate. Please feel free to contact me should you require any further information.

Thank you.

JCK/wc  
Encl.

Comments of the Senate Executive Committee:  
The Senate Executive Committee endorses  
the report to Senate.

**SENATE COMMITTEE ON UNIVERSITY RESEARCH:  
REPORT ON THE REVIEW OF THE  
CENTRE FOR EARTH OBSERVATION SCIENCE (CEOS)**

**Preamble:**

1. Policy on *Research Centres, Institutes and Groups*, stipulates that all research centres/institutes be reviewed by the Senate Committee on University Research (SCUR) on a periodic basis but not less than once every 5 years. Accordingly and following the approval by the Senate Policy, the Senate Committee on University Research established a schedule for the review of all research centres/institutes.
2. For each research centre/institute identified for review, a sub-committee of the Senate Committee on University Research was established. In accordance with the Policy, the task of each sub-committee was to recommend to SCUR on whether a formal, independent review committee should be struck to conduct a full review. If a sub-committee was of the view that a full review of a specific research centre/institute was not warranted, it was further charged with recommending to SCUR on the continuance or termination of the research centre/institute.

**Observations:**

1. The sub-committee established to review CEOS followed the review process outlined in section 3.3.1 of the Policy. The sub-committee reviewed annual reports of CEOS as well as a Review Report prepared for SCUR by CEOS which contained:
  - a description of how and why CEOS has achieved or revised its original objectives; a detailed listing of its research and training accomplishments; a current membership list; and a detailed financial statement;
  - a five-year plan which identifies future research directions and development strategies; and
  - an extensive compendium of letters of support from: the Dean of the Clayton H. Riddell Faculty of Environment, Earth and Resources (the 'Riddell Faculty'); unit heads with the Riddell Faculty; and a host of research partner organizations and individuals from the academic, government, not-for-profit and private sectors.
2. The membership of the sub-committee was as follows: Dr. Don Fuchs, Chair and Professor, Faculty of Social Work, University of Manitoba; Dr. Jim Davie, Professor of Biochemistry and Medical Genetics, Faculty of Medicine; and Dr. Rick Linden, Professor, Department of Sociology, Faculty of Arts.

3. The sub-committee concluded from its review that CEOS had clearly met its overall goals and objectives which are to research, preserve and communicate knowledge of earth system processes using technologies of earth observation science. Further, the Centre has a solid plan to build on its accomplishments that charts the course for its activities over the next five years, along with associated funding requirements.

CEOS has an excellent record of research and training achievements, with members having published 80 peer-reviewed papers over the past 10 years and having trained 10 Masters and 6 Ph.D. students and 4 post-doctoral fellows. CEOS members currently supervise 14 Masters and 17 Ph.D. students and 3 post-doctoral fellows.

The Centre has also been very successful in securing external research support. Indeed, over the past 10 years, it has received over \$26M in external research funding. It has and, in some cases, continues to be involved in several major international collaborative research efforts, including:

- *ArcticNet*, a national Network of Centres of Excellence (in which it continues to play a key role);
- The Canadian Arctic Shelf Exchange Study;
- North Water Polynya Study;
- World Bank and CIDA Lake Malawi Biodiversity Conversation Project; and
- CIDA and Centre for International Forestry Research Peoples Project.

Members of the Centre have also been very involved in outreach activities. For example, the Centre is a founding member of the Lake Winnipeg Research Consortium. It has collaborated with the Fort Whyte Environmental Education Centre in the operation of an Earth Observation Theatre. CEOS was also very involved in establishing the Manitoba Educational GIS Consortium, which has linked six of Manitoba's post-secondary educational institutions. The *Schools on Board* program, which was initiated and is administered by CEOS, has been particularly innovative. As part of the ArcticNet and Canadian Arctic Shelf Exchange programs, high school students have been taken on-board the CCGS Amundsen, where they work with the scientific teams on the ship. This program has introduced many high school students to Arctic research and has also garnered a great deal of publicity in communities across Canada.

CEOS is strongly supported by the University and, in particular, the Clayton H. Riddell Faculty of Environment, Earth, and Resources. New space for the Centre was created through the addition of a 4<sup>th</sup> floor to the Wallace Building and CEOS is provided with an annual operating budget by the Riddell Faculty. This budget is used to support a full-time administrative assistant, full-time computer analyst and part-time computer technician, along with supporting the Centre's operations (which includes the Geographic Information System (GIS) undergraduate teaching lab). In addition, the Dean of the Riddell Faculty has

committed to make income from endowment funds available to CEOS as it becomes available.

4. Based on its review, the sub-committee recommended to SCUR and SCUR approved the recommendation that a full review of the research centre was not warranted, and that the Centre for Earth Observation Science should continue for a five year period.

**Recommendation:**

On behalf of the Senate Committee on University Research, I am recommending to Senate:

**That the Centre for Earth Observation Science continue for a five year period, beginning January 1, 2007.**

Respectfully submitted,

Joanne C. Keselman  
Vice-President (Research)  
and Chair, Senate Committee on University Research

**Report of the Senate Committee on Curriculum and Course Changes Part B - Submitted to Senate for Ordinary Debate**

---

**Preamble**

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) are found in section 8.21 of the *Senate Handbook*. SCCC is "to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula and courses".
2. This part of the report contains observations and recommendations on course change proposal for units where the net increase is more than nine credit hours. The Senate Planning and Priorities Committee was provided with copies of these proposals as well.

**Observations**

1. **Faculty of Arts**

**French, Spanish and Italian – Spanish**

**SPAN 3XXD Spanish Phonetics and Pronunciation and SPAN 3XXE Spanish Syntax and Grammar** are being proposed as replacements for **SPAN 3280 Spanish Phonetics and Syntax** which will be deleted. To reflect the expertise of new faculty members in the Department, and current member's research interests, four new courses are being proposed. They are **SPAN 1XXL Accelerated Intermediate Spanish, SPAN 3XXA Cinema and Literature, SPAN 3XXB Advanced Spanish Vocabulary and Composition, and SPAN 3XXC Testimony and Human Rights in Latin America.** Modifications in SPAN 1180 Introductory Spanish, SPAN 1260 Intermediate Spanish Language Review, SPAN 1270 Spanish Oral 1, SPAN 1280 Spanish for Native Speakers, SPAN 2200 Spanish American Culture and Civilization, SPAN 2510 Survey of Spanish Civilization, SPAN 2520 Introduction to Spanish Literature, SPAN 2530 Spanish American Literature 1, SPAN 2540 Spanish American Literature 2, SPAN 2550 Advanced Spanish Composition, and SPAN 2560 Advanced Spanish Conversation to reflect the change in pre-requisite requirements to SPAN 1XXL Accelerated Intermediate Spanish. The General Major program, Options 1 and 2 has changes to include SPAN 1XXL as an alternative to both SPAN 1260 and SPAN 1270. The Advanced Major Program has changes to include SPAN 1XXL as an alternative to both SPAN 1260 and SPAN 1270 in options 1 and 2. It also reduces the total credit hours in Options 1, 2, and 3 from 521 credit hours to 48 credit hours.

**History**

The Department is proposing the division of two existing 6 hour courses into half courses. The 6 hour courses will remain in the calendar. The introduced courses are: **HIST 2XXX Europe 1789-1870 (E), HIST 2YYY Europe 1870- to the present (E), HIST 3XXY Europe 1870-1918 (E), and HIST 3YYY Europe 1918-1945 (E).** In response to new

faculty members and faculty research interests, the department is proposing the introduction of four new courses. These include: **HIST 2AAA Social History of the Jews: Antiquity to Present**, **HIST 3AAA German and German Jewish History, 1780-1933 (E)**, **HIST 3XXX Medieval Italy (D)**, and **HIST 4AAA The Social History of the Latin American State (1492-2005) (A)**.

Modification is being proposed to HIST 2370 History of Europe since the French Revolution (E), to add restriction of the course of HIST 2XXX Europe 1789-1870 and HIST 2YYY Europe 1870 to present. Modification is being proposed for HIST 2490 History of Russia (E) to add restrictions of newly introduced courses at St. Boniface College. These courses are HIST 2661, HIST 2840 (or 11.284), or HIST 2841. Restriction of HIST 2661 (11.266) Historie de l'URSS and HIST 3471 (11.347) is being proposed for HIST 2660 History of the Soviet Union (E). HIST 2671 Historie du capitalisme is being proposed as a restriction for HIST 2670 History of Capitalism (M). HIST 2840 A History of Russia to 1917 (E) has proposed restrictions of HIST 2841 Histoire de la Russie jusqu'en 1917, a newly introduced course and HIST 3471 (11.3471) which had been previously missed in error. It is proposed that a restriction of a newly introduced courses, HIST 2991 Histoire de l'Eglise catholique depuis 1540, be added to HIST 2990 The History of Catholicism since 1540 (G). HIST 3680 Europe, 1870-1945 (E) have a restriction of two introduced courses added. The courses are HIST 3XXXIY Europe 1870-1918 and HIST 3YYY Europe 1918-1948.

### **Recommendations**

The Senate Committee on Curriculum and Course Changes recommends that curriculum and course changes from the units listed below be approved by Senate:

1. **Faculty of Arts**

Department of French, Spanish and Italian – Spanish  
Department of History

Respectfully submitted,  
Professor J. Welsh, Chair  
Senate Committee on Curriculum and Course Changes

/nis

1. **Faculty of Arts**

**Department of History**

Courses to be introduced:

HIST 2AAA Social History of the Jews: Antiquity to Present (G) +6  
A social, economic, and political history of the Jewish experience from the beginnings of the Jewish diaspora to the present, covering Jewish communities in medieval and modern Europe, the Middle East, and North America,

HIST2XXX Europe 1789-1870 (E) +3  
The History of Europe during the French Revolution and the conservative reaction to it, focusing on political ideologies and national and international politics. Students may not hold credit for both HIST 2XXX and HIST 2370 (or 011.237)

HIST 2YYY Europe 1870 to the Present (E) +3  
The history of Europe since 1870, focusing on industrialisation, imperialism, political ideologies, and national and international politics. Students may not hold credit for both HIST 2YYY and HIST 2370 (or 011.237).

HIST 3AAA German and German Jewish History, 1780-1933 (E) +3  
A course on the history of Germany from the Enlightenment to the Weimar Republic with a focus on the experience of German Jewry.

HIST 3XXX Medieval Italy (D) +6  
A study of topics in the history of the Italian peninsula between the 6<sup>th</sup> and 15<sup>th</sup> centuries, with emphasis on urban life, gender, and religious culture. Prerequisite: a grade of "C" or better in six credit hours of history or written consent of department head.

HIST 3XXY Europe 1670-1918 CE) +3  
Europe at the zenith of its power. The course examines the dominant forces and personalities of the period from Bismarck to the end of the First World War. It emphasizes the domestic and international concerns of the major European powers, the industrial revolution, and the partition of Africa, as well as the causes and events of the First World War. Students may not hold credit for both HIST 3XXY and HIST 3680 (011.368). Prerequisite: a grade of "C" or better in six credit hours of history or written consent of department head.

HIST 3YYY Europe 1918-1945 (E) +3  
Europe in decline. The course examines the peace settlement of 1919, and the balance of power generally. It also considers fascism, the Russian Revolution, the rise of Nazism, the Spanish Civil War in addition to the origins and events of the Second World War. Students may not hold credit for both HIST 3YYY and HIST 3680 (011.368). Prerequisite: A grade of "C" or better in six credit hours of history or written consent of the department head.

HIST 4AAA The Social History of the Latin American State (1492-2005) (A) + 6  
Readings on the history of Latin America since colonial times, focused on the dynamic relationship between different social groups and the state. Based on an interdisciplinary theoretical framework, this historical overview will cover different geographical areas, issues, and social factors. Prerequisite: written consent of department head.

Courses to be modified:

HIST 2370 History of Europe since the French Revolution (E) (formerly 011.237) 6  
The history of Europe since 1789, focusing on industrialization, political ideologies, and national and international politics. Students may not hold credit for HIST 2370 (or 011.237) and any of HIST 2XXX or HIST 2YYY.

HIST 2490 History of Russia (E) (Formerly 011.249) 6  
A survey of Russian history from its origins to the present. Students may not hold credit for HIST 2490 (or 011.249) and any of: HIST 2660 (or 011.266), HIST 2661, HIST 2840 (or 011.284), or HIST 2841.

HIST 2660 History of the Soviet Union (E) (Formerly 011.256) 3  
Attention will be given in particular to the Russian Revolution, the nature of the Soviet political system, the major social and economic experiments, and the Soviet role in international politics. Students may not hold credit for HIST 2660 (or 011.266) and any of: HIST 2661, HIST 2490 (or 011.249), or the former HIST 3471 (or 011.347).

HIST 2670 History of Capitalism (M) (Formerly 011.267) 3  
A study of the emergence and evolution of the capitalist system stressing its effects on human culture from the 15th to the 20th Centuries. Students may not hold credit for both HIST 2670 (or 011.267) and HIST 2671.

HIST 2840 A History of Russia to 1917 (E) (formerly 011.284) 3  
A survey of the historical development of Russia from its beginnings to the end of the Imperial period. Students may not hold credit for HIST 2840 (or 011.284) and any of HIST 2841, HIST 2490 (or 011.249), or the former HIST 3471 (or 011.347).

HIST 2990 The History of Catholicism since 1540 (G) (Formerly 011.299) 3  
The history of Roman Catholicism from about 1540 to the present. Emphasis will be placed on Catholic responses to the modern world and to movements of theological and institutional reform. Students may not hold credit for both HIST 2990 (or 011.299) and HIST 2991.

HIST 3680 Europe, 1870-1945 CE) (Formerly 011.368) 6  
Europe at the zenith of its power. The course examines the dominant forces and personalities of the period between Bismarck and Hitler. It emphasizes nationalism and minorities questions; the origins and events of the two world wars; and the domestic concerns of the major European states. Students may not hold credit for HIST 3680 (or 011.368) and any of: HIST 3XXY or HIST 3YYY. Prerequisite: a grade of "C" or better in six credit hours of history or written consent of department head.

#### **NET CHANGE IN CREDIT HOURS: +33 HOURS**

#### **Department of French, Spanish and Italian – Spanish**

Courses to be deleted:

SPAN 3280 Spanish Phonetics and Syntax -3

Courses to be introduced:

SPAN 1XXL Accelerated Intermediate Spanish +6  
This is a one term accelerated course which combines the content of SPAN 1260 (or 044.126) and SPAN 1270 (or 044.127). It is a review of grammar and pronunciation structured around extensive writing practice and conversation of contemporary issues

relating to the Spanish speaking world. There will be six hours of classroom instruction with a two hour laboratory per week. This course is not open to students with native oral fluency. Students may not hold credit for SPAN IXXL and any of: SPAN 1260 (or 044.126), SPAN 1270 (or 044.127), TRAD 1261 (or 122.126), or TRAD 1271 (or122.127). Prerequisite: a grade of "C" or bettering SPAN 1180(or044.118) (TRAD 1181 or122.118), Senior 4 Spanish, or written consent of instructor or department head.

SPAN 3XXA Cinema and Literature +3  
A survey of the culture (Spain and Latin America) through its literature and cinema. The course will be taught in Spanish. All the readings, movies, activities and examinations will be in Spanish. Prerequisite: a grade "C" or better in any 2000-level Spanish course or written consent of department head.

SPAN 3XXB Advanced Spanish Vocabulary and Composition +3  
A survey of grammar and vocabulary, the course also emphasizes and enhances students' writing abilities. The course will be taught in Spanish. All the class exercises, readings, activities and examinations will be in Spanish. Prerequisite: a grade "C" or better in any 2000- level Spanish course or written consent of department head.

SPAN 3XXC Testimony and Human Rights in Latin America +3  
A survey of the culture of human rights in Latin America through its testimonial literature. The course will be taught in Spanish. All readings, activities and examinations will be in Spanish. Prerequisite: a grade "C" or better in any 2000-level Spanish course or written consent of department head.

SPAN 3XXD Spanish Phonetics and Pronunciation +3  
This course includes a thorough study of advanced Spanish phonetics and pronunciation. Students may not hold credit for both SPAN 3XXD and the former SPAN 3280 (or 044.328). Prerequisite: a grade of "C" or better in any 2000-level Spanish course or written consent of department head.

SPAN 3XXE Spanish Syntax and Grammar +3  
This course includes a thorough study of advanced Spanish syntax and grammar. Students may not hold credit for both SPAN 3XXE and the former SPAN 3280 (or 044.328). Prerequisite: a grade of 'C' or better in any 2000-level Spanish course or written consent of department head.

Courses to be modified:

SPAN 1180 Introductory Spanish (Formerly 044.118) 3  
A course designed for those with little or no previous knowledge of Spanish. The course includes grammar, reading and oral practice, with language laboratory exercises. An oral approach is utilized. The student is given glimpses of cultural aspects of Spain and Spanish America. Students with Senior 4 Spanish may not normally take the course for credit. Not open to students with native oral fluency. Students may not hold credit for SPAN 1180 and any of: SPAN 1XXL, SPAN 1260 (or044.126), TRAD 1261 (or122.126), SPAN 1280, or TRAD 1181 (or 122.118).

SPAN 1260 Intermediate Spanish Language Review (Formerly 044.126) 3  
Intensive language review for students who have completed SPAN 1180 (or 044.118) (TRAD 1181 or 122.118) or who have been granted prerequisite standing in SPAN 1180 (or 44.118) (TRAD 1161 or 122.118). Language study and practice in the classroom and language laboratory. Not open to students with native oral fluency. Students may not hold credit for SPAN 1260 (or 044.126) and any of SPAN IXXL, SPAN 1280 or TRAD 1261 (or 122.126). Prerequisite: a grade of "C" or better in SPAN 1180 (or 044.118) (TRAD 1181 or 122.118), Senior 4

SPAN 1270 Spanish Oral 1 (Formerly 044.127) 3  
For students who do not have native oral fluency in Spanish and who wish to improve their understanding and correctness in spoken Spanish. Intensive oral practice in the classroom and language laboratory at the intermediate level discussing contemporary issues and topics relating to Hispanic current events, politics and culture. Not open to students with native oral fluency. Students may not hold credit for SPAN 1270 (or 044.127) and any of: SPAN IXXL, SPAN 1280, or TRAD 1271 (or 122.127). Prerequisite: a grade of "C" or better in SPAN 1260 (or 044.126) (TRAD 1261 or 122.126) or written consent of department head.

SPAN 1280 Spanish for Native Speakers 3  
A survey of grammar and writing for people with an advanced level of oral Spanish. All the class exercises readings, activities and examinations will be in Spanish. Students may not hold credit for SPAN 1280 and any of: SPAN 1180 (or 044.118), TRAD 1181 (or 122.118), SPAN 1260 (or 044.126), TRAD 1261 (or 122.126), SPAN 1270 (or 044.127), TRAD 1271 (or 122.127), or SPAN 1XXL. Prerequisite: written consent of department head.

SPAN 2200 Spanish American Culture and Civilization (Formerly 044.220) 3  
A picture of the geographical, political, economic, social, artistic and cultural forces in Latin America. Essays, cultural readings, newspaper articles, magazines and films are utilized to enhance awareness and to stimulate discussion. Prerequisite: a grade of "C" or better in one of SPAN 1260 (or 044.126) (TRAD 1261 or 122.126), SPAN 1270 (or 044.127) (TRAD 1271 or 122.127), SPAN 1280, SPAN 1XXL, or written consent of department head.

SPAN 2510 Survey of Spanish Civilization (Formerly 044.251) 3  
A study of the history of Spanish culture with special stress on its non-literary arts, and selected aspects of Spanish life. Prerequisite: a grade of "C" or better in one of SPAN 1260 (or 044.126) (TRAD 1261 or 122.126), SPAN 1270 (or 044.127) (TRAD 1271 or 122.127), SPAN 1280, SPAN 1XXL, or written consent of department head.

SPAN 2520 Introduction to Spanish Literature (Formerly 044.252) 3  
This course will consist of an introduction to Spanish literary characteristics and the study of selected works from the major historical periods and genres. Prerequisite: a grade of "C" or better in one of: SPAN 1260 (or 044.126)1 SPAN 1270 (or 044.127)1 SPAN 1280, SPAN 1XXL, TRAD 1261 (or 122.126), TRAD 1271 (or 122.127), or written consent of department head.

SPAN 2530 Spanish American Literature 1 (Formerly 044.253) 3  
Spanish American Literature from Colonial Times to Modernism. The chronicles, lyric poetry, and age of rebellion, romanticism, modernism, are studied through selections from the works of major figures. Prerequisite: a grade of "C" or better in one of: SPAN 1260 (or

044.126), SPAN 1270 (or 044.127), SPAN 1280, SPAN 1XXL, TRAD 1261 (or 122.126), TRAD 1271 (or 122.127), or written consent of department head.

SPAN 2540 Spanish American Literature 2 (Formerly 044.254) 3  
Spanish American Literature from Realism to Post-vanguardism. Realism, the novel of the Mexican revolution, post-modernist to post-vanguardist poetry, the contemporary narrative, are studied through selections from the works of major figures. Prerequisite: a grade of "C" or better in one of: SPAN 1260 (or 044.126), SPAN 1270 (or 044.127), SPAN 1280, SPAN 1XXL, TRAD 1261 (or 122.126), TRAD 1271 (or 122.127), or written consent of department head.

SPAN 2550 Advanced Spanish Composition (Formerly 044.255) 3  
Designed to enhance the student's ability in writing Spanish. Emphasis on advanced grammatical concepts and clarity of expression. Prerequisite: a grade of "C" or better in one of: SPAN 1260 (or 044.126) SPAN 1260, SPAN 1XXL, TRAD 1261 (or 122.126) or written consent of department head.

SPAN 2560 Advanced Spanish Conversation (Formerly 044.256) 3  
Designed to enhance the student's conversational skills. Intensive oral practise as well as written exercises based on contemporary issues. Not open to students with native oral fluency. Prerequisite: a grade of "C" or belier in both SPAN 1260 (or 044.126) and SPAN 1270 (or 044.127)1 both TRAD 1261 (or 122.126) and TRAD 1271 (or 122.127), SPAN 1XXL, or written consent of department head.

#### **NET CHANGE IN CREDIT HOURS: +18 HOURS**

Modified program chart as follows:

Added material

~~Deleted material~~

### **8.12.6 Spanish**

For entry, continuation and graduation requirements for the General Degree, Advanced Degree and Honours Degree, see Section 4: Basic Faculty Regulations for the Three Programs Leading to a B.A.

#### **Major Program**

For entry to the Major, the prerequisite is a grade of "C" or better in SPAN 1180, or a grade of "C" or better in both SPAN 1260 and SPAN 1270 (or SPAN 1XXL), or a grade of "C" or better in both SPAN 1280 and 3 credit hours from Spanish courses numbered at the 2000 level. For students who have taken additional courses toward the major, then a minimum cumulative GPA of 2.00 is required on all courses including the higher grade of repeated courses and excluding failed courses.

A minimum cumulative GPA of 2.00 in all courses that comprise the Major is required to graduate including the higher grade of repeated courses and excluding failed courses.

It is recommended that students who wish to Major in Spanish take the introductory course in the Summer Session prior to entering the fall program, or take SPAN 1260 and SPAN 1270 (or SPAN

1XXL) in the Summer Session prior to their entry into the second year. This will allow for a wider variety of course selections in the final two years.

**Minor Program**

For entry to the Minor, the prerequisite is a grade of "C" or better in SPAN 1180, or a grade of "C" or better in both SPAN 1260 and SPAN 1270 (or SPAN 1XXL), or a grade of "C" or better in both SPAN 1280 and 3 credit hours from Spanish courses numbered at the 2000 level.

**Other**

Students entering the university with prior knowledge of Spanish may be allowed 'prerequisite standing' in course SPAN 1180 by the Spanish section of the department. Special permission is required to enter a higher numbered course.

All Spanish courses except SPAN 1180 are taught in Spanish.

For information regarding the Minor program in Latin American Studies, see Section 8.20.

**8.12.7 Spanish**

UNIVERSITY 1	YEAR 2	YEAR 3	YEAR 4
<b>GENERAL MAJOR (OPTION 1)<sup>1</sup> TOTAL: 30 CREDIT HOURS</b>			
SPAN 1180	SPAN 1260, SPAN 1270, <u>or</u> SPAN 1XXL	<ul style="list-style-type: none"> <li>• SPAN 2550</li> <li>• 9 credit hours from Spanish courses numbered at the 2000 level</li> <li>• 6 credit hours from Spanish courses numbered at the 3000 level</li> </ul>	
<b>GENERAL MAJOR (OPTION 2)<sup>1</sup> TOTAL: 30 CREDIT HOURS</b>			
SPAN 1260 and SPAN 1270, <u>or</u> SPAN 1XXL	<ul style="list-style-type: none"> <li>• SPAN 2550</li> <li>• 9 credit hours from Spanish courses numbered at the 2000 level</li> </ul>	12 credit hours from Spanish courses numbered at the 3000 level	
<b>GENERAL MAJOR (OPTION 3)<sup>2</sup> TOTAL: 30 CREDIT HOURS</b>			
SPAN 1280 and 3 credit hours from Spanish courses numbered at the 2000 level	<ul style="list-style-type: none"> <li>• SPAN 2550</li> <li>• 9 credit hours from Spanish courses numbered at the 2000 level</li> </ul>	12 credit hours from Spanish courses numbered at the 3000 level	
<b>ADVANCED MAJOR (OPTION 1)<sup>1</sup> TOTAL: 48<del>51</del> CREDIT HOURS</b>			
SPAN 1180	SPAN 1260 and SPAN 1270, <u>or</u> SPAN 1XXL	<ul style="list-style-type: none"> <li>• SPAN 2550</li> <li>• 12 credit hours from</li> </ul>	<del>1518</del> credit hours from Spanish courses numbered

---

Spanish courses numbered at the 3000 level  
the 2000 level

- 6 credit hours from Spanish courses numbered at the 3000 level

---

**ADVANCED MAJOR (OPTION 2)<sup>1</sup> TOTAL: 485 CREDIT HOURS**

SPAN 1260 and SPAN 1270, or SPAN 1XXL

- SPAN 2550
- 9 credit hours from Spanish courses numbered at the 2000 level

- 6 credit hours from Spanish courses numbered at the 2000 level
- 9 credit hours from Spanish courses numbered at the 3000 level

15 credit hours from Spanish courses numbered at the 3000 level

---

**ADVANCED MAJOR (OPTION 3)<sup>2</sup> TOTAL: 485 CREDIT HOURS**

SPAN 1280 and 3 credit hours from Spanish courses numbered at the 2000 level

- SPAN 2550
- 9 credit hours from Spanish courses numbered at the 2000 level

- 6 credit hours from Spanish courses numbered at the 2000 level
- 9 credit hours from Spanish courses numbered at the 3000 level

15 credit hours from Spanish courses numbered at the 3000 level

---

**NOTES:**

<sup>1</sup> Options 1 and 2 are not open to students with native oral fluency in Spanish. Students with native oral fluency in Spanish are advised to follow Option 3.

<sup>2</sup> Option 3 is open to students with native oral fluency in Spanish. Such students may enter Spanish courses numbered at the 2000 level with a grade of "C" or better in SPAN 1280.

---

**Report of the Senate Planning and Priorities Committee on Undergraduate Changes with Potential Resource Implications or Course Changes Beyond Nine Credit Hours**

**Preamble**

1. SPPC has the responsibility to report to Senate on curriculum changes with significant resource implications, including additions to departmental curricula of more than nine credit hours.
2. The committee reviewed a proposal from the Faculty of Arts to introduce a total of 54 credit hours, and to delete a total of three credit hours, in two Departments. In the Departments of French, Spanish and Italian and History, new courses are being introduced in response to faculty member's research and teaching interests. History is also splitting two six-credit hour courses into four three-credit hour courses in order to provide more flexibility in the scheduling of courses.

**French Spanish and Italian**

**Observations**

1. The Department of French, Spanish and Italian – Spanish proposes to introduce several new courses, in response to the research and teaching interests of a recent hire and the ongoing and expanding interests of a current faculty member.
2. Five three-credit hour courses and one six-credit hour course will be introduced, as follows: Cinema and Literature (3), Advanced Spanish Vocabulary and Composition (3), Testimony and Human Rights in Latin America (3), Spanish Phonetics and Pronunciation (3), Spanish Syntax, and Grammar (3), and Accelerated Intermediate Spanish (6).
3. Statements from University of Manitoba Libraries (UML) indicate that these courses can be supported adequately with the acquisitions budget presently allocated to Spanish language and literature. An investment of \$450.00 to acquire seven compulsory titles, three recommended titles, and update four titles which will complement existing resources.
4. The proposed courses will be offered on a rotating basis, in alternation with existing courses.
5. Combined with the proposed deletion of SPAN 3280 Spanish Phonetics and Syntax, the net increase in credit hours is 18.

Comments of the Senate Executive Committee  
The Senate Executive Committee endorses the report to Senate.

## History

### Observations

1. The Department of History, in response to faculty members teaching and research interests, and in an effort to provide scheduling flexibility for a faculty member who will be teaching half time proposes the introduction of new courses and the splitting of some six-credit hour courses.
2. Five three-credit hour courses and three six-credit hour course will be introduced, as follows: Europe 1789-1870 (E) (3), Europe 1879 to the Present (E) (3), German and German Jewish History, 1780-1933 (E) (3), Europe 1870-1918 (E) (3), Europe 1918-1945 (E) (3), Social History of the Jews: Antiquity to Present (6), Medieval Italy (D) (6), and the Social History of the Latin American State (1492-2005) (A) (6).
3. Four of the proposed three-credit hour courses are the splitting of two six-hour courses. The existing six-credit hour courses will remain in the calendar, but are unlikely to be taught concurrently with the new three-credit hour courses.
4. Statements from University of Manitoba Libraries (UML) indicate that they have the resources to support each of the courses to be introduced. The cost to acquire books for these courses that are not already in the collection is \$180.00. A further \$592.00 would be required to purchase six monographs. These acquisitions can be supported adequately with the acquisitions budget presently allocated to History.

### Recommendation

THAT Senate approve the course changes from the departments of French, Spanish and Italian, and History as presented by the Faculty of Arts.

Respectfully submitted,

Norm Hunter, Chair

Senate Planning and Priorities Committee

/nis

November 15, 2006

## **Report of the Senate Committee on Honorary Degrees**

### **Preamble**

Since last reporting to Senate, the Committee on Honorary Degrees met on the above date to consider a proposed Policy and Procedure on the Naming of Academic Units.

### **Observations**

1. The attached policy and procedure on the naming of academic units were developed to establish a clear and documented process for the possible future naming of any academic units.
2. The documents were developed jointly by the Office of the University Secretary and the Office of the Vice-President (External), after extensive research and consultations. While these documents have been under development for several years, the creation of a "policy that would guide future discussion on the naming of academic units after individuals, families, organizations or corporations" was advocated in a motion approved by Senate on February 2, 2005.
3. The Committee notes that this policy and procedure, have been developed in the absence of any specific naming situation, and will enable all interested parties to know the guidelines around the potential naming of any academic unit in advance of any specific case.

### **Recommendations**

The Senate Committee on Honorary Degrees recommends that Senate approve and recommend that the Board of Governors approve the proposed policy and procedure on the Naming of Academic Units.

Respectfully submitted,

Dr. W. Norrie, Chair  
Senate Committee on Honorary Degrees  
Terms of Reference: *Senate Handbook* (Revised 1992), pages 10.15 - 10.16.

/jml

# UNIVERSITY OF MANITOBA POLICY

No. _____	Effective Date _____
Title: <u>Naming of Academic Units</u>	Review Date _____

**Approving Body:**  Board of Governors       Senate       Administration (specify): \_\_\_\_\_

**Authority:**       *University of Manitoba Act* Section # 16 (1) e

Other Legislation [name and section #] \_\_\_\_\_

Bylaw [name and section #] \_\_\_\_\_

Policy [name and section #] \_\_\_\_\_

**Implementation:** President, Delegated to the University Secretary

**Contact:** University Secretary

**Applies to:**  Board of Governors members       External Parties Benefactors

Senate members      [Specify applicable external parties] \_\_\_\_\_

Faculty/School Councils       Employees \_\_\_\_\_

Students      [Specify applicable employee organizations and employment groups] \_\_\_\_\_

**1.0      Reason for Policy**

To set out the conditions under which Academic Units may be named in honour of individual(s).

**2.0      Policy Statement**

**2.1      General**

2.1.1      For the purposes of this policy, "Academic Unit" refers to Faculties, Schools, Departments, Divisions and Institutes as defined in the Board bylaw entitled "Faculties, Schools, Departments Divisions and Institutes".

2.1.2      Persons who may be honoured by the naming of an Academic Unit include the following:

- a)      Persons who have contributed to the life and mission of the University of Manitoba (contributions may include teaching, research, scholarship, service or creative work).

OR

- b)      Persons who have contributed to the cultural, social and economic well-being of the people of Manitoba, Canada and the world in

areas which are of major interest to the University of Manitoba, and/or which are directly associated with the University,

OR

- c) Persons who, through their contributions of capital or other assets, enable the University of Manitoba to further its mission.

2.1.3 The naming of an Academic Unit is a sensitive matter. At the outset of any proposal for the naming of an Academic Unit, it is important that those proposing the naming ensure that:

- i) the proposed name is compatible with the broader purposes of the University;
- ii) the autonomy of the Academic Unit in question and the academic freedoms to which the University of Manitoba is committed will be safeguarded; and
- iii) in the event that the naming is proposed to recognize a benefaction, that the gift provided is recognized as significant to the long-term growth of the unit in question; and
- iv) that the proposed name is supported by a majority of the members of the governing council of the Academic Unit involved.

2.1.4 An Academic Unit shall not be named after a commercial entity.

2.1.5 The underlying principle of any naming is that the persons after whom the unit is named and the University should both be honoured by the naming of the Academic Unit.

2.1.6 The Board of Governors has the ultimate authority on the approval and the termination of the name of a named Academic Unit.

### 3.0 **Accountability**

3.1 The University Secretary is responsible for advising the President that a formal review of the Policy is required.

### 4.0 **Secondary Documents**

4.1 The President may approve Procedures which are secondary to and comply with this Policy.

### 5.0 **Review**

5.1 Formal Policy reviews will be conducted every ten (10) years. The next scheduled review date for this Policy is

5.2 In the interim, this Policy may be revised or rescinded if:

- (a) the Approving Body deems necessary; or
- (b) the relevant Bylaw, Regulations or Policy is revised or rescinded.

5.3 If this Policy is revised or rescinded, all Secondary Documents will be reviewed as soon as reasonably possible in order to ensure that they:

- (a) comply with the revised Policy; or
- (b) are in turn rescinded.

6.0 **Effect on Previous Statements**

6.1A This Policy supersedes the following:

- (a) all previous Board/Senate Policies, Procedures, and resolutions on the subject matter contained herein; and
- (b) all previous Administration Policies, Procedures, and directives on the subject matter contained herein;

7.0 **Cross References**

**Cross References**

[Indicate names and numbers of other specific Governing Documents which should be cross referenced to this Governing Document. Include section # of other Governing Documents if appropriate.]

Cross referenced to: (1) Procedures Naming of Academic Units (3) \_\_\_\_\_  
(2) \_\_\_\_\_ (4) \_\_\_\_\_

# UNIVERSITY OF MANITOBA PROCEDURE(S)

No. _____	Effective Date: _____
Title: <u>Naming of Academic Units</u>	Review Date: _____

**Approving Body:** Board of Governors       Senate       Administration (specify): President

**Authority:**       Bylaw [name and section #] \_\_\_\_\_  
 Regulation [name and section #] \_\_\_\_\_  
 Policy [name and section #]      Naming of Academic Units, s.4.1

**Implementation:** University Secretary

**Contact:** University Secretary

**Applies to:**  Board of Governors members       External Parties/Benefactors  
 Senate members      [Specify applicable employee organizations]  
 Faculty/School Councils       Employees  
 Department Councils      [Specify applicable employee organizations  
and employment groups]  
 Students

## 1.0 Reason for Procedure(s)

To set out the procedures for secondary to the Policy: Naming of Academic Units in connection with:

- a) the naming of an academic unit; and
- b) the termination of name use of an academic unit.

## 2.0 Procedure(s)

### 2.1 Process for Naming an Academic Unit

2.1.1 In naming an Academic Unit, the following process shall be followed:

- 2.1.1.1 The members of the Governing Council of the Academic Unit being named shall vote on the naming proposal. Such a vote shall be conducted by secret ballot at a duly called meeting of the Unit's council. If approved by a majority of the members present and voting, the proposal, and all relevant background materials shall be forwarded to the University Secretary.
- 2.1.1.2 The Senate Committee on Honorary Degrees shall consider the recommendation of the Unit's council on the proposed naming and make a recommendation to Senate.
- 2.1.1.3 Senate shall consider the proposed naming in closed session and vote to recommend that the Board of

Governors approve the naming, subject to, if applicable, "the University executing a mutually agreeable agreement with the benefactor(s)".

2.1.1.4 The Board of Governors shall then, in closed session, consider the proposal and vote on its approval. The Board of Governors has the ultimate authority on the naming of an Academic Unit.

## 2.2 Termination of Name Use

2.2.1 The President may recommend that the Board of Governors:

- a) determine, in a closed session meeting:
  - i) that the actions or conduct of any person(s) for whom an Academic Unit is named are materially immoral or unethical in nature; or
  - ii) if such person(s) has displayed a lack of integrity that would cause the University embarrassment; and
- b) decide whether such matters warrant the withdrawal of the name.

## 3.0 Accountability

3.1 The University Secretary is responsible for advising the President that a formal review of the Procedure is required.

3.2 The University Secretary is responsible for communication, administration and interpretation of these procedures.

## 4.0 Review

4.1 Formal Procedure reviews will be conducted every ten (10) years. The next scheduled review date for these Procedures is \_\_\_\_\_.

4.2 In the interim, these Procedures may be revised or rescinded if:

- (a) the Board of Governors deems necessary; or
- (b) the relevant Bylaw, Regulation(s) or Policy is revised or rescinded.

## 5.0 Effect on Previous Statements

5.1A These Procedures supersede the following:

- (a) all previous Board/Senate Procedures, and resolutions on the subject matter contained herein; and
- (b) all previous Administration Procedures, and resolutions on the subject matter contained herein; and
- (c) all previous Faculty/School Council Procedures stemming from the Faculty/School Council Bylaw and academic and admission Regulations and any resolutions on the subject matter contained herein; and

## 6.0 Cross References

**Cross References**

[Indicate names and numbers of other specific Governing Documents which should be cross referenced to this Governing Document. Include section # of other Governing Documents if appropriate.]

Cross referenced to: (1) Policy: Naming of Academic Units (3) \_\_\_\_\_  
(2) \_\_\_\_\_ (4) \_\_\_\_\_