

SENATE AGENDA

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for the next meeting of Senate. Please do not destroy it.
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March 3, 2010



UNIVERSITY
OF MANITOBA

OFFICE OF THE UNIVERSITY SECRETARY

Senate
Senate Chamber
Room E3-262 Engineering Building
WEDNESDAY, March 3, 2010
1:30 p.m.
Regrets call 474-6892

AGENDA

I MATTERS TO BE CONSIDERED IN CLOSED SESSION - none

II MATTERS RECOMMENDED FOR CONCURRENCE WITHOUT DEBATE

1. Correspondence from the Registrar Page 17
RE: Changes to the Academic Schedule for 2010/2011

III MATTERS FORWARDED FOR INFORMATION

1. Report of the Senate Committee on Awards Page 18
Addendum to November 10, 2009 report
2. Report of the Senate Committee on Awards Page 20
[January 11, 2010]
3. Items approved by the Board of Governors on Page 24
January 26, 2010
4. Correspondence from the Provost Page 25
RE: Implementation of Master of Fine Arts Program
5. Report on Research Contract Funds Received Page 26
July 1, 2009 to December 31, 2009
6. Statement of Intent Page 30
Bachelor of Science (Major) in Genetics

IV REPORT OF THE PRESIDENT

V 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 FEBRUARY 6, 2010**

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 33

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. **Program Proposal from the Faculty of Graduate Studies
RE: Ph.D. in Food Science**

a) **Program Proposal** Page 34

b) **Report of the Senate Planning and Priorities
Committee** Page 54

2. **Program Proposal from the Faculty of Graduate Studies
RE: Ph.D. in Human Nutritional Sciences**

a) **Program Proposal** Page 56

b) **Report of the Senate Planning and Priorities
Committee** Page 90

3. **Program Proposal from the Faculty of Graduate Studies
RE: Master of Dentistry in Pediatric Dentistry**

a) **Program Proposal** Page 92

b) **Report of the Senate Planning and Priorities
Committee** Page 163

4. **Program Proposal from the Faculty of Arts
RE: Bachelor of Arts: Integrated Studies**

a) **Program Proposal** Page 165

b) **Report of the Senate Committee on Admissions** Page 193

c) **Report of the Senate Committee on Curriculum and
Course Changes** Page 200

d) **Report of the Senate Planning and Priorities
Committee** Page 202

X ADDITIONAL BUSINESS

XI ADJOURNMENT

Please call regrets to 474-6892 or meg_brolley@umanitoba.ca
/mb



UNIVERSITY
OF MANITOBA

Registrar's Office

400 University Centre
Winnipeg, Manitoba
Canada R3T 2N2
Telephone (204) 474 9426
Fax (204) 275-2589

Date: January 27, 2010

Memo To: Senate

From: Neil Marnoch, Registrar

Re: Revisions to the Proposed Academic Schedule for 2010-2011

Please consider the following changes proposed by the Faculty of Medicine to the 2010-2011 Academic Schedule:

Section 1: Orientation Sessions for Fall/Winter Session

Delete	Insert
Medicine, Year 1 August 17, 2010	-----
Medicine Inaugural Exercises August 18, 2010	Medicine Inaugural Exercises August 25, 2010

Section 2: Start & End Dates for Fall/Winter Session

Delete			Insert		
Fall Term 2010	Start	End	Fall Term 2010	Start	End
Medicine, Years 1 & 2	Aug. 23, 2010	TBA	Medicine, Year 1	Aug. 24, 2010	Dec. 21, 2010
			Medicine, Year 2	Aug. 30, 2010	Dec. 21, 2010
Medicine, Years 3 & 4	Aug. 23, 2010	Dec. 17, 2010	Medicine, Years 3 & 4	Aug. 30, 2010	Dec. 21, 2010
Medicine, B.Sc.	May 24, 2010	Aug. 20, 2010			
Winter Term 2011	Start	End	Winter Term 2011	Start	End
Medicine, Years 1 & 2	TBA	May 20, 2011	Medicine, Years 1 & 2	Jan. 4, 2011	May 27, 2011
Medicine, Year 3	Jan. 4, 2011	Aug. 19, 2011	Medicine, Year 3	Jan. 5, 2011	Aug. 26, 2011
Medicine, Year 4	Jan. 4, 2011	May 6, 2011	Medicine, Year 4	Jan. 3, 2011	May 6, 2011

Section 5: Dates of University Closure & Mid Term Break

When the University is closed no classes/examinations will be held	Start	End	When the University is closed no classes/examinations will be held	Start	End
Delete			Insert		
Medicine Years 1 & 2	Mar. 14, 2011	Mar. 19, 2011	Medicine Years 1 & 2	Mar. 21, 2011	Mar. 25, 2011

Section 13: Summer Session 2011

Class	Start	End
Insert		
Medicine, B.Sc.	May 30, 2011	Aug. 26, 2011

REPORT OF THE SENATE COMMITTEE ON AWARDS

Preamble

Terms of reference for the Senate Committee on Awards 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 the policy on the *Non-Acceptance of Discriminatory Awards*, such offers shall be submitted to Senate for approval. (Senate, October 7, 2009)

Observation

At its meeting of November 10, 2009, the Senate Committee on Awards approved amendments to the Corrigill Scholarship as set out in Appendix A of the *Addendum to the Report of the Senate Committee on Awards* (dated November 10, 2009).

Recommendation

On behalf of Senate, the Senate Committee on Awards recommends that the Board of Governors approve amendments to the Corrigill Scholarship, as set out in Appendix A of the *Addendum to the Report of the Senate Committee on Awards* (dated November 10, 2009). This award decision complies with the published guidelines of November 3, 1999, and is reported to Senate for information.

Respectfully submitted,

Dr. Philip Hultin
Chair, Senate Committee on Awards

Appendix A

MEETING OF THE SENATE COMMITTEE ON AWARDS Addendum, November 10, 2009

1. AMENDMENTS

Corrigill Scholarship

A number of amendments have been made to the terms of reference for the Corrigill Scholarship, at the request of the Faculty of Architecture.

- The pool of eligible candidates for the graduate scholarships has been changed:
 - from: students proceeding from the pre-Master's year and Master's Year I, to the Master's Year I and Year II, respectively,
 - to: students proceeding from the fourth year of the Environmental Design program (ED 4) and Master's Year I, to the Master's Year I and Year II, respectively.
- The pool of eligible candidates for the Environmental Design (ED) scholarships has been amended:
 - from: students proceeding from ED1 to ED2, from ED 2 to ED 3, and from ED 3 to Master's I,
 - to: students proceeding from ED 2 to ED 3, from ED 3 to ED 4, and from ED 4 to Master's I.

REPORT OF THE SENATE COMMITTEE ON AWARDS

Preamble

Terms of reference for the Senate Committee on Awards 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 the policy on the *Non-Acceptance of Discriminatory Awards*, such offers shall be submitted to Senate for approval. (Senate, October 7, 2009)

Observation

At its meeting of January 11, 2010, the Senate Committee on Awards approved four new offers, one amended offer, and the withdrawal of two offers, as set out in Appendix A of the *Report of the Senate Committee on Awards* (dated January 11, 2010).

Recommendation

On behalf of Senate, the Senate Committee on Awards recommends that the Board of Governors approve four new offers, one amended offer, and the withdrawal of two offers, as set out in Appendix A of the *Report of the Senate Committee on Awards* (dated January 11, 2010). These award decisions comply with the published guidelines of November 3, 1999, and are reported to Senate for information.

Respectfully submitted,

Dr. Philip Hultin
Chair, Senate Committee on Awards

Appendix A

MEETING OF THE SENATE COMMITTEE ON AWARDS January 11, 2010

1. NEW OFFERS

W.K. Kellogg Medical Student Bursary

The W.K. Kellogg Foundation has established the W.K. Kellogg Medical Student Bursary Fund at the University of Manitoba to offer bursary support for medical students. The available annual income from the endowment fund will be used to offer one or more bursaries to undergraduate students who:

- (1) are enrolled full-time in any year of study in the Faculty of Medicine at the University of Manitoba;
- (2) have been admitted to the Faculty of Medicine or, as continuing students, have achieved satisfactory standing within the Faculty;
- (3) have demonstrated financial need on the standard University of Manitoba bursary application form.

The selection committee will have the discretion to determine the number and value of bursaries. The selection committee will be named by the Dean of the Faculty of Medicine (or designate).

Dr. John E. and Mrs. Mary McGoey Scholarship in Medicine

In honour of their parents, Dr. John E. (M.D./48) and Mrs. Mary McGoey, Mr. John T. McGoey (B.Sc./72, LL.B./75) and Mr. David McGoey (B.Comm.(Hons.)/75)) have established an endowment fund at the University of Manitoba, with an initial gift of \$100,055.00, in 2009. The fund will be used to offer an admission scholarship for students in the Faculty of Medicine. The available annual income from the fund will be used to offer one scholarship to a student who:

- (1) has been admitted to the first year of the Undergraduate Medical Education Program in the Faculty of Medicine;
- (2) has graduated from a high school in rural Manitoba (excluding the following areas: Headingly, Oak Bluff, St. Norbert, St. Germaine, Vermette, East St. Paul, West St. Paul, and Rosser);
- (3) has ranked high on the Admission Composite Score.

The selection committee will be named by the Dean of the Faculty of Medicine (or designate).

The Board of Governors of the University of Manitoba has the right to modify the terms of this award if, because of changed conditions, it becomes necessary to do so. Such modification shall conform as closely as possible to the expressed intention of the donor in establishing the award.

Kenneth Main Family Bursary in Civil Engineering

The family of Kenneth Main [B.Sc. (C.E.)/86] has established an endowment fund at the University of Manitoba to honour his memory. The fund has been established with an initial gift of \$25,000, in 2009. The Manitoba Scholarship and Bursary Initiative has made a contribution to

the fund. Beginning in the 2010-2011 academic session, the available annual interest from the fund will be used to offer two bursaries, of equal value, to undergraduate students who:

- (1) have completed at least 24 credit hours of study at the University;
- (2) in the next ensuing academic session, are enrolled full-time (minimum 24 credit hours) in the Faculty of Engineering, in the Bachelor of Science in Engineering (Civil) degree program;
- (3) have achieved a minimum degree grade point average of 2.5;
- (4) have demonstrated financial need on the standard University of Manitoba bursary application form.

The selection committee will be the Scholarships, Bursaries, and Awards Committee of the Faculty of Engineering.

The Board of Governors of the University of Manitoba has the right to modify the terms of this award if, because of changed conditions, it becomes necessary to do so. Such modification shall conform as closely as possible to the expressed intention of the donor in establishing the award.

Neil Simons Award in Applied Electromagnetics

Dr. Neil Simons (Ph.D./94) has established an endowment fund at the University of Manitoba with an initial gift of \$10,000. Northwater Capital Management Inc. has made a contribution to the fund. The available annual income from the fund will be shared equally among members of the team of undergraduate students who:

- (1) have successfully completed *Group Design Project* (currently numbered ECE 4600) with a minimum grade of B; and
- (2) as a team, have achieved a combined average degree grade point average of at least 3.0;
- (3) from among those teams that also meet criteria (1) and (2), have completed the best project related to applied electromagnetics, as determined by the selection committee.

For the purpose of this award, applied electromagnetics includes: antennas, computational electromagnetics, rf and microwave circuits, electromagnetic devices for biomedical applications, etc.

The selection committee will be the Scholarships, Bursaries and Awards Committee of the Faculty of Engineering and will include the instructors for ECE 4600.

The Board of Governors of The University of Manitoba has the right to modify the terms of this award if, because of changed conditions, it becomes necessary to do so. Such modification shall conform as closely as possible to the expressed intention of the donor in establishing the Award.

2. AMENDMENTS

Psychology Alumni Faculty Scholarship

At the request of the Department of Psychology, the name of the Psychology Alumni Faculty Scholarship has been changed to the 'Graduate Alumni Psychology Graduate Fellowship.' One reference to the 'Alumni Faculty Scholarship Trust' in the terms of reference for the award has been amended to the 'Graduate Alumni Psychology Graduate Fellowship.'

3. WITHDRAWALS

Mexico Recruitment Scholarships in Graduate Studies

The terms of reference for the Mexico Recruitment Scholarships in Graduate Studies were withdrawn at the request of the Faculty of Graduate Studies. The Scholarship has not been awarded since it was established in 2002.

DCF – Oral-B Laboratories Dental Undergraduate Scholarship

The terms of reference for the DCF – Oral-B Laboratories Dental Undergraduate Scholarship, which was an annually funded award for Dentistry students, were withdrawn at the request of the donor.



UNIVERSITY
OF MANITOBA

Office of the University Secretary

312 Administration Building
Winnipeg, Manitoba
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Fax (204) 474-7511

MEMORANDUM

DATE: January 27, 2010
TO: Dr. David Barnard, Chair of Senate
FROM: Jeff M. Leclerc, University Secretary *Jeff Leclerc*
SUBJECT: Items approved by the Board of Governors on January 26, 2010

The Board of Governors, at a meeting held on January 26, 2010, considered the following items of interest to Senate:

Student Discipline Bylaw and Procedures

The Board of Governors approved the revisions to the Student Discipline Bylaw and related Procedures [as recommended by Senate December 2, 2009].

Proposal for Program

The Board of Governors approved the proposal for a DMD/PhD Dental Medicine and Research Program [as recommended by Senate December 2, 2009].

Proposal for Endowed Chair

The Board of Governors approved the establishment of an Endowed Chair in Surgical Research.

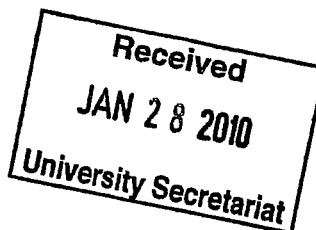
Reports of the Senate Committee on Awards

The Board of Governors approved the reports of the Senate Committee on Awards [dated October 26, 2009 and November 10, 2009].



UNIVERSITY
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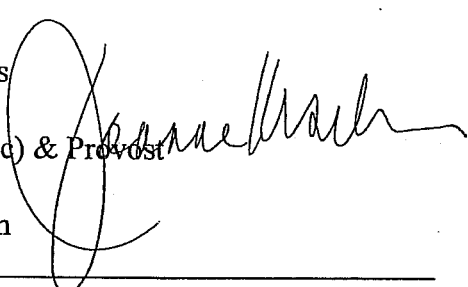
Office of the
Vice-President (Academic) & Provost



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January 26, 2010

TO: Jay Doering, Dean, Faculty of Graduate Studies
FROM: Joanne C. Keselman, Vice-President (Academic) & Provost
SUBJECT: Implementation of Master of Fine Arts Program



As detailed in my memorandum of December 14, 2009, funding for the Master of Fine Arts Program has been approved and will be made available incrementally over the next five fiscal years. Accordingly, I hereby approve implementation of the MFA degree program with effect from September 2010.

On behalf of the University, I extend congratulations to all those in the School who over the years have worked so hard to design this program. I look forward to hearing of its development and success in the years ahead.

c Paul Hess, Director, School of Art
Richard Lobdell, Vice-Provost (Programs)
Neil Marnoch, Registrar
✓ Jeff Leclerc, University Secretary



UNIVERSITY
OF MANITOBA


OFFICE OF THE
VICE-PRESIDENT (RESEARCH)

JAN 28 2010
University Secretariat

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Telephone (204) 474-6915
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MEMORANDUM

TO: Mr. Jeff Leclerc, University Secretary

FROM: Digvir Jayas, Vice-President (Research) 

DATE: January 27, 2010

SUBJECT: Report on Research Contract Funds Received

COPIES: Drs. Glavin and Ristock, Associate Vice Presidents (Research)

Attached is the Report on Research Contracts Received for the period July 1, 2009 to December 31, 2009. Note that there are 41 contracts, valued at \$20K or more, established in this 6 month period compared to 34 in the previous 6 month period.

Please include the report for information on the next Senate agenda.

Thank you.

DJ/nis

Attach.

Research Contract Funds Awarded
ORS Processed Date: July 1, 2009 to December 31, 2009
for contracts > \$19,999

Faculty	PI Name	Sponsor	Awarded Amount	Project Title
Extended Education	Rocke, Cathy	Indian and Northern Affairs Canada (INAC)	50,000	Health careers transition year program
Faculty of Agricultural and Food Sciences	Akinremi, Olalekan	Manitoba Conservation	25,000	Phosphorus determination in soil extracts
	Amiro, Brian	Manitoba Agriculture, Food & Rural Initiatives	49,983	Greenhouse gas implications of forage-crop conversions
	Cloutier, Sylvie	Genome Canada	350,400	Total utilization flax genomics (TUFGEN)
	Jones, Peter	Canola Council of Canada	20,000	The role of genetic variants in FADS1 and FADS2 in the efficiency of ALA conversion and the cardioprotective benefits of dietary canola and flax oils
	Kebreab, Ermias	Manitoba Agriculture, Food & Rural Initiatives	50,000	Development of the manure gas research facility (MANGAS-RF) for modeling greenhouse gas emissions from stored manure: Phase 1- evaluation of dietary manipulation effects
	Kebreab, Ermias	Manitoba Agriculture, Food & Rural Initiatives	50,000	Effects of manure and formulated N fertilizers on greenhouse gas emissions in the Red River Valley
	Lobb, David	Agriculture and Agri-Food Canada	24,227	Watershed evaluation of beneficial management practices (WEBs) technical and research activities under the stepper South-Tobacco Creek watershed project
	Tenuta, Mario	Manitoba Agriculture, Food & Rural Initiatives	49,713	Optimizing N fertilizer rates for potato production, economics and reduction in greenhouse gas emissions
	Tenuta, Mario	Manitoba Agriculture, Food & Rural Initiatives	49,970	Soil organic carbon in long-term crop rotation and management studies in south central Manitoba and the Red River Valley
				NSERC/Manitoba Hydro IRC in alternative energy
Faculty of Engineering	Bibeau, Eric	Manitoba Hydro	500,000	
	Birouk, Madjid	Manitoba Hydro	43,000	Combustion characteristics of renewable (Syngas and Bio-gas) fuels for industrial thermal power generation
	Gole, Aniruddha	Electranix Corporation	25,000	IRC in power systems simulation - renewal

Engineering Continued

	Montufar, Jeannette	Environment Canada	70,000	Urban and regional transportation emissions modelling: Development of spatial, temporal, and vehicle specific factors for Manitoba
	Mufti, Aftab	Province of Manitoba	328,600	Structural health monitoring of girder 8 on the south perimeter Red River bridge
Faculty of Environment, Earth and Resources	Berkes, Fikret	International Development Research Centre (IDRC)	249,960	IRDC Research Chair in Community-based resource management
	Manseau, Micheline	Parks Canada	61,000	Use of fecal DNA in estimating population size of woodland caribou: Project results
Faculty of Medicine	Aoki, Fred	BioCryst Pharmaceuticals, Inc.	78,970	A phase 3, open label, randomized study of the antiviral activity, safety and tolerability of intravenous peramivir in adult and adolescent hospitalized subjects with confirmed or suspected influenza infection
	Aoki, Fred	University of Alabama at Birmingham	27,000	Clinical trials for antiviral therapies
	Becker, Marissa	International Centre for Infectious Diseases	223,863	Issues in pandemic influenza responses for marginalized urban populations
	Blanchard, James	Gates (Bill and Melinda) Foundation	8,397,051	Increase uptake of newborn and maternal interventions in poorly performing rural districts of Karnataka
	Blanchard, James	Ministry of Health, Royal Government of Bhutan	47,761	Designing of intervention for the sex workers in Bhutan
	Blanchard, James	The World Bank	159,000	An impact assessment of targeted intervention for prevention of HIV in India (WB#00010 "India HIV prevention-impact assessment")
	Eni, Rachel	Health Canada	99,100	Exploring factors affecting breastfeeding initiation and duration in First Nation communities in Canada
	Jackson, Alan	MacroGenics Inc	39,304	A Phase 2, randomized, double-blind placebo-controlled study to evaluate the safety of MGAN1 in subjects with suspected central nervous system infection due to West Nile Virus
	Miller, Donald	University of Nebraska	20,000	Analysis of creatine ethyl ester in various dietary supplements and samples
	Moses, Stephen	Public Health Foundation of India	45,200	Proposal to strengthen STRCs in India
	Nagy, James	Albert Einstein College of Medicine	27,000	Control of junctional conductance of auditory afferents
	Rafay, Mubeen	McMaster University	70,500	Outcome trajectories in children with epilepsy: What factors are important

Medicine continued

	Rockman-Greenberg, Cheryl	BioMarin Pharmaceutical Inc.	50,950	A phase 3b open-label study to evaluate the effect of Kuvan on neurocognitive function, maintenance of blood phenylalanine concentrations, safety, and population pharmacokinetics in young children with phenylketonuria
	Rockman-Greenberg, Cheryl	Enobia Pharma US	123,138	A randomized, open-label, multicenter, multinational, dose-ranging, historical control study of the safety, efficacy, pharmacokinetics and pharmacodynamics of ENB-0040 (Human recombinant tissue nonspecific alkaline phosphatase fusion protein) in children with hypophosphatasia (HPP) ENB-006-09
	Simard, Louise	Families of Spinal Muscular Atrophy (SMA)	36,000	Project Cure (SMA) Spinal Muscular Atrophy
	Smith, Mark	Tu'kn Partnership	40,000	Telling our stories: Quantifying, documenting and articulating First Nations health information needs
	Wylle, John	International AIDS Society	75,000	Social networks, status and molecular epidemiology of HIV, HBV, and HCV infections among drug abusers in Kenya
	Younes, Magdy	St. Michael's Hospital	80,141	Control of breathing in health and disease (Pathogenesis of obstructive sleep apnea)
Faculty of Nursing	Diehl-Jones, William	Melaleuca, Inc.	21,970	In vitro uptake and transport of a proprietary amino acid oligofructose (AAOF) compound
	Sawatzky-Dickson, Doris	Hospital For Sick Children Research Institute	30,400	Translating research on pain in children (TROPIC)
Faculty of Science	Goldsborough, L.	Environment Canada	25,000	Modeling water quality in the south basin of Lake Manitoba
	Goldsborough, L.	Manitoba Conservation	22,000	Fisheries studies of Delta Marsh, 2009
Faculty of Social Work	Fuchs, Donald	University of Toronto	107,000	A quantitative study of the experience of youth with FASD transitioning out of care of the provincial child welfare system
I. H. Asper School of Business	Larson, Paul	Province of Manitoba	402,684	Stakeholder survey project: GrEEEn trucking program



UNIVERSITY
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19 November 2009

Mr. Sid Rogers
Secretary
Council on Post-Secondary Education
410 - 330 Portage Avenue
Winnipeg, MB R3C 0C4

Dear Mr. Rogers,

**Statement of Intent:
B.Sc. (Major) in Genetics**

On behalf of the University of Manitoba, I am pleased to submit the attached Statement of Intent to establish a B.Sc. (Major) in Genetics.

This new program offers the option of attaining a B.Sc. (Major) degree rather than the B.Sc. (Hon) degree now in place. The courses comprising the new degree are currently on offer in the Faculty of Science. The principal differences between the proposed Major and the existing Honours degree are (i) the Major has a slightly lower GPA entry requirement; (ii) the Major has a slightly lower GPA requirement for continuation in the program; (iii) the Major can be pursued by part-time students whereas the Honours program requires students to be full-time (i.e., a minimum of 18 credit hours per academic year); and (iv) the Major program does not require a research-based project course as does the Honours program.

The proposed Major can be implemented at once since no additional resources or academic courses are required.

We anticipate offering this program initially in September 2010. We anticipate that about 15 students per year will choose to pursue the proposed Major. Graduates would be eligible to pursue postgraduate studies in genetics. Some are likely to seek entry into professional health-related degree programs in Medicine, Dentistry, Pharmacy, and Veterinary Medicine. Other graduates will find employment in the public and private sectors, both within Manitoba and across the country.

My colleagues and I would be pleased to provide any additional information your Council may require during its consideration of this Statement of Intent.

Yours sincerely,

Richard A. Lobdell
Vice-Provost (Programs)

Encl.

Copy: Joanne Keselman, Vice-President (Academic) and Provost
Mark Whitmore, Dean, Faculty of Science
Jeff Leclerc, University Secretary

STATEMENT OF INTENT

Institution

☐ University of Manitoba

Program Overview

Currently, the University of Manitoba offers a highly successful interdisciplinary B.Sc. Honours program in Genetics that has a Co-op option. This program is administered through the Faculty of Science through a committee that includes members from Science, Medicine, Arts and Agriculture. The committee unanimously approved adding a 4 year Major in Genetics, also with a Co-op option, to the existing program. Both Honours and Majors programs will involve all aspects of genetics from human genetics, molecular genetics, basic genetics, population genetics to applied genetics.

Program Name:

Genetics Program

Credential to be offered:

B.Sc.(Major)

Does the program require accreditation from a licensing group? NO
If yes, name group

Length of the program: 4 years at 30 credits per year

Proposed program start date: 01/09/2010
Day/Month/Year

Which department(s) within the institution will have responsibility for the program?

Faculty of Science – Department of Biological Sciences
Department of Microbiology

Faculty of Medicine Department of Pediatrics
Department of Biochemistry and Medical Genetics

Faculty of Agriculture Department of Plant Science
Faculty of Arts Department of Anthropology

As compared to other programs your institution will be proposing, is the priority of this program:
☐ High

Is this a new program? NO

Is this a revision of an existing program: YES
Genetics Program

What are the impacts of changing this program?

We would anticipate that the main impact would be an increase in numbers of students in the program. It will utilize currently offered courses and will require no additional resources

Will the program be available to part-time students? YES

Will this program have a cooperative education component? YES
If YES, how long with the field placement be?
Three terms of four-months, each

Will the program contain an option to assess prior learning of students, to grant credit for the skills/knowledge already present. NO

innovations in agriculture, medicine and biotechnology.

☐ What agencies, groups, institutions will be consulted regarding development of the program?
The program is essentially developed as a new component of the interdisciplinary genetics program. This proposal provides the flexibility with in the program for students to obtain a major's degree as well as the already established Honours. The faculties of Medicine, Agriculture, Science and Arts at the University of Manitoba were all involved in the development and formation of the program

☐ Is there any other information relevant to this program ?
NO

4. Financial Information

Projected Program Costs: Salary 0
 Operating 0
 Capital 0
 Total cost 0

There would be no additional costs as the Major would operate entirely within existing courses at the University of Manitoba.

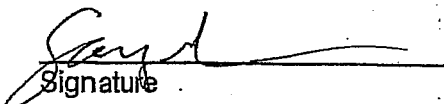
Projected Program Revenue:

Total revenue 0

Submitted by: _____

Dr W. Gary Anderson
Name (print)

Associate Professor, Dept of Biological Sciences
Position


Signature

4th Nov 2009
Date

February 10, 2010

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

Professor Jennifer Mactavish will be the Speaker for the Executive Committee for the March meeting of Senate.

2. Comments of the Executive Committee of Senate

Other comments of the Executive Committee accompany the report on which they are made.

Respectfully submitted,

Dr. David Barnard, Chair
Senate Executive Committee

Terms of Reference:

http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/477.htm

/mb



UNIVERSITY
OF MANITOBA

Office of the Dean
Faculty of Graduate Studies

John Doering, Ph.D., P.Eng.,
FCSCE
500 University Centre
Winnipeg, Manitoba
Canada R3T 2N2
Telephone: (204) 474-

Date: May 21, 2009

To: Jeff LeClerc, Office of the Univ. Secretary, 312 Admin

From: Dr. John (Jay) Doering

Re: New Graduate Program:

The Faculty Council of Graduate Studies met on Thursday, May 21, 2009 and unanimously endorsed the proposed new Ph.D. in Food Science program.

We are now forwarding the proposal to Senate for approval.

1. The Dept. of Food Science - Ph.D. in Food Science. Please review the:
 - Program Proposal (Att.A)
 - External Reviewers' Report (Attach.B)
 - Departmental Response (Attach.C)

/jc

Report of the Faculty Council of Graduate Studies on New Programs

Preamble

1. The Faculty of Graduate Studies has responsibility for all matters relating to the submission of graduate course, curriculum and program changes, and new graduate programs. Recommendations for new programs or changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Food Science.

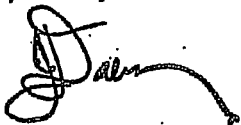
Observations

1. The Dept. of Food Science proposes the introduction of a Ph.D. in Food Science. It is intended that this Ph.D. program replace the Food Science aspect of the current Individual Interdisciplinary Ph.D. in Food and Nutritional Sciences. Please review the:
 - Program Proposal (Attach. A)
 - External Reviewers' Report (Attach. B)
 - Departmental Response (Attach. C)

Recommendations

The Faculty Council of Graduate Studies endorses the proposed Ph.D. in Food Science recommends that it be forwarded to Senate for approval:

Respectfully submitted,



Dean J. Doering, Chair
Graduate Studies Faculty Council

The University of Manitoba



UNIVERSITY
OF MANITOBA

Council on Post-Secondary Education Proposal for a PhD in Food Science

September 3, 2008
Revised January 13, 2009

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Available
in PBS
upon
request

Proposal for a PhD in Food Science

A. PROGRAM DESCRIPTION

1. Rationale, objectives and features

I. Rationale for the Program

To provide research training for food science students at the doctorate level so as to permit institutions and organizations in Manitoba, Canada and internationally to have access to future employees of the highest quality.

Currently, doctoral students in the Department of Food Science receive a degree in Food and Nutritional Sciences. With the recommendation that the Department of Human Nutritional Sciences have a PhD program within their own department, there is a need to unite all food science graduate students (at MSc and PhD levels) within the Department, and hence there is a need for a doctoral degree program in Food Science.

II. Objectives of the Program

To develop the talents of gifted individuals so that they will be able to:

- apply established and/or innovative scientific concepts to understand the changes that occur in raw agricultural commodities and in foods during production, storage, processing and distribution;
- achieve fundamental insights into the biochemical and biophysical nature of bioactive and food materials so that the knowledge can be applied to add value to agricultural commodities by preserving or enhancing their nutritional quality and sensory acceptability to consumers;
- understand the microbial ecology of foods so that their insights will allow them to devise strategies for ensuring the safety of a wide range of food products.

To train individuals in basic scientific concepts so that they will be able to:

- formulate hypothesis-driven research strategies for investigating complex issues related to food systems;
- acquire a greater depth of critical thinking skills for evaluating their own research and the research of other scientists.

To inspire individuals to become effective teachers and communicators of the science of foods and its relevance to humanity but especially to Manitobans and Canadians.

III. Program Fit with Priorities of Faculty

The Department's long-standing reputation for research excellence in agricultural and food sciences is being used to support the Faculty's initiative in Sustainable Agriculture. Faculty members are contributing to better understanding each one of the four thrusts of the Faculty's Sustainable Agriculture research initiative: sustainable cropping systems, sustainable animal production systems, value-added processing and post-harvest technology. The Department provides the main thrust for the Faculty's focus in Applied Nutritional Sciences with many of the Department's faculty members being associate members of the Richardson Centre for Functional Foods and Nutraceuticals. In addition, research strength in this area is enhanced by two NSERC CRCs in Applied Nutritional Sciences (one at the Tier I level and the other at the Tier II level) being members of the Department. The international reputation of the University of Manitoba as a centre of

excellence in cereal science research is also being used to support the Faculty's research prioritization in the area of Environmental and Resource Sciences. The ethanol mandate in Manitoba is structured to benefit the environment and to stimulate rural economic development. Efficiencies in bio-fuel feedstock production and processing require that full use is made of the significant amounts of non-bio-fuel components created during processing. The value-added processing research of the Department will be instrumental to attaining a science-based approach to addressing this issue that is of critical importance to continued diversification of agricultural resources in Manitoba.

IV. Novel or Innovative Features of the Program

The innovative aspects of the Department's research programs stem from a focus on elucidating the underlying mechanisms by which specific food components or food preservation strategies achieve a desirable outcome. A knowledge of these mechanisms can then be used to develop predictive models to enable shelf-life, nutritional quality or specific end-use attributes to be rigorously calculated. In the Department, this innovation is founded on:

- a) active participation in interdisciplinary collaborations to attain a comprehensive understanding of the properties of food systems;
- b) the development of novel analytical methods to understand the biochemical, biophysical and structural nature of food systems;
- c) the development of innovative processes along with innovative ingredient and preservative delivery systems to apply this understanding in order to improve the nutritional efficacy, safety and acceptability of food systems;

2. Context

1. Program Compliance with Current or Future Needs of Manitoba and/or Canada

Governments at both levels have invested heavily in research and innovation and the promotion of the commercialization of these investments. The ability to deliver on these investments requires a Department that can instill a sound science-based approach in graduate student education that is tailored to agri-food research. Agri-food and agriculture constitute one of Canada's top five industries, and it is certainly considered a substantial strength for the province of Manitoba, where the food process industries contribute significantly to the province's manufacturing sector and to its value-added exports. The future development of agri-food resources in Manitoba and Canada must rely on basic research that is targeted to the strategic priorities of the province and nation. Two areas of research training in food science that are highlighted in regard to provincial and national priorities are: the Department's investigation of the scientific basis for the safety and physiological efficacy of functional food and nutraceutical products in the Richardson Centre for Functional Foods and Nutraceuticals; and, the Department's scientific investigations of strategies for sustainable development of our value-added agri-food sector. Canadian excellence in food science is internationally recognized with the last analysis of international research competitiveness ranking Canadian research in food science and technology second in terms of core Canadian science strengths (Adams, *Nature*, 396:615). To maintain this leadership role, and thus develop the economies of Manitoba and Canada, we need educational programs that focus on producing highly qualified personnel with strong skills in food science and technology. Therefore, the

proposed program will fit with provincial and national needs to train a greater number of highly-skilled individuals who will meet the growing demands of an expanding industry base that is focused on augmenting the intellectual capital in its products.

II: Strengths of the Program

Canola protein gelation mechanisms: Invitations to speak on this topic both nationally and internationally.

Processing of and adding value to pulses: Department has been identified as a key location for this type of research in an assessment of pulse research in Canada, and this strength is supported by substantial research funds.

Sorghum grain chemistry (starch functional properties and treatment of grain polyphenols): Invitations to speak on this topic internationally, and reporting of research results in international peer-reviewed scientific journals.

Phytochemicals and antioxidant activity of raw and processed foods: Department has received substantial CFI funds to acquire state-of-the-art equipment including the quadrupole time-of-flight mass spectrometer (QTOF MS) for identification of phytochemicals and assessment of antioxidants in foods and is strongly supported by ABIP funding.

Pathogen transfer and growth in horticultural pesticides: Unique research highlighted by the scientific periodical *New Scientist*.

Biochemical and molecular evaluation of quality for malt and feed barley: Department represented on national policy boards related to barley quality.

Investigations of gluten and starch biochemistry on wheat flour dough properties: Invitations to speak on this topic internationally, and reporting of research results in international peer-reviewed scientific journals.

Structure / function analysis in foods: Lifetime achievement award (2002) from American Oil Chemists Society for this research.

Integration of academia / industry interests in food structure and function: Holder of first industry-endowed cereal research chair within US university system.

Natural antimicrobials to control pathogenic and spoilage organisms in packaged meats: Work in the Department is at the leading edge of research in this area due to regular reporting of results in international scientific journals and scientific representation on the CRC College of Reviewers and NSERC's SRO review panel.

Dairy colloid science: Use of modern biophysical techniques for characterization of the nanoscale components that are the basis of functionality in all dairy products, so that knowledge of the structure-function relations of milk components is used to guide value-added application studies, either for nutritional enhancement or in development of novel dairy foods.

Phytochemical and bioactive ingredient identification, analysis, extraction, and processing: Department has worked with Manitoba companies to develop food products using horseradish, beets, blueberries, saskatoons, mustard, seabuckthorn, and dairy products (β -conjugated linoleic acid).

Relationships between molecular and physical structures of plant polysaccharides and their functional properties: 2007 Belfort Carbohydrate Lecturer at the Whistler Center for Carbohydrate Research, Purdue University (individuals selected as the Belfort Lecturer are scientists who have made outstanding contributions to glycoscience).

Cholesterol, fat and energy metabolism: Pioneering research in this area as evinced by publication of over 200 peer-reviewed research articles in international journals, as well as by chapters in leading nutrition textbooks.

Functional foods and nutrition: Past recipient of Award for Excellence in Nutrition Research and expertise in functional foods recognized by appointment to prestigious advisory positions in Canadian and international organizations with business and policy interests in food and nutrition issues.

Phytochemistry and engineering/processing of functional foods and nutraceuticals: Achievements in this area recognized through the award of the Queen's Jubilee Medal, through election of Department member as Fellow of the International Academy of Food Science and Technology, and being recognized by the Information Sciences Institute (ISI) as one of the world's most cited and influential researchers in Agricultural Sciences.

Wheat grain chemistry and utilization quality: More than a quarter century of research in the Department on the physicochemical nature of wheat utilization quality for food, cultivar identification by biochemical fingerprints, methods for wheat protein fractionation and protein quality identification and digital imaging of both grain and baked goods is widely known and internationally recognized; e.g., appearances on CBC's Quirks & Quarks.

Modelling of structure-properties relationships of biological materials: Department receives substantial NSERC Discovery grant funds to maintain research leadership in this area.

Ultrasonic analyses of food properties: Interdisciplinary venture generating international interest in the use of ultrasound for measuring fundamental dough properties, with patent registrations featured in *New Scientist*.

Process science: Research on potato processing was the subject of a story on CTV National News and which was subsequently aired on CNN World Headline News a number of times the next day.

III. Areas of Concentration and Specialization

Microbial ecology for ensuring the safety and preservation of foods

Biochemistry of prairie crops

Processing strategies for adding value to prairie crops

Science of quality and healthful efficacy in grains and their processed products

IV. Use of Existing Programs at the University of Manitoba as Program Foundation

The primary means of admission to the program will be through the Master of Science in Food Science (or similar programs), either from the University of Manitoba, or from academic institutions outside the province or Canada. Therefore, the currently established Masters programs at the University of Manitoba will be essential foundations for the proposed PhD program.

V. Extent to which Program Enhances Co-operation among Manitoba's Universities

Although the University of Manitoba is the only provincial university with a masters program in Food Science, students from Manitoba universities with a science-based Masters degree are eligible to enroll in the program. In the past, students from the University of Winnipeg have undertaken graduate studies in the Department.

VI. Department Enhancement of the National and International Reputation of the University of Manitoba

The research program in the Department of Food Science dovetails well with many aspects of the University's strategic research plan. Of the research and research training thrusts enunciated by the University, the Department of Food Science is actively conducting research and research training in Applied Nutritional Sciences, Environmental & Resource Sciences and Sustainable Agriculture. Department researchers are also participating in research and research training partnerships in the areas of Biomedical Sciences and Natural Sciences.

The Department is home to some key (unique) facilities that are not found in other Canadian universities. As an example, the University of Manitoba is currently the only Canadian university with a combined research and education focus on the utilization quality of cereals and grain legumes.

Research quality conducted by the Department is significantly above the norm for the University of Manitoba. Research quality equates to attainable levels of national excellence in virtually all sub-areas of research activity conducted by Department faculty, and shows evidence of international excellence. Substantiation of such a statement comes from: two Department members being ISI's most cited and influential researchers (University of Manitoba only has a total of six such outstanding scholars); the numerous invitations that faculty have been offered to speak at national and international scientific conferences, and at the laboratories of transnational corporations; the winning of research competitions by the Department's graduate students at national and international conferences; faculty participation in Canada's only Network Centre of Excellence in foods; faculty participation in national and international peer-review processes and panels; faculty membership on the editorial boards of scientific journals; and, the highlighting of Department research in national and international media.

Tri-council research funding brought in by the Department is significantly above the norm for the University of Manitoba. In this way, the Department is permitting the University of Manitoba to realize its vision to be recognized as a leader among Canadian research-intensive universities by building its research capacity through the Canada Research Chairs program and the Government's Indirect Costs of Research payments.

Furtherance of the University's reputation will continue as doctoral students in the proposed PhD program continue to acquire prestigious international awards and the innovative aspects of their theses are presented and/or published in international scientific fora.

VII. Similar Programs in Canada and North America

Institution	Degree	Institution	Degree
Dalhousie	Food Science and Technology	Alabama A&M	Food Science and Technology
McGill	Food Science and Agricultural Chemistry	Auburn	Nutrition and Food Science
Memorial	Food Science	Cornell	Food Science and Technology
Laval	Sciences et Technologie des Aliments	Florida State	Food Science
Alberta	Food and Nutritional Science	Iowa State	Food Science and Human Nutrition
British Columbia	Food Science	Kansas State	Grain Science
Guelph	Food Science	Kansas State	Food Science
Saskatchewan	Food Science	Louisiana State	Food Science
		Michigan State	Food Science and Human Nutrition
		North Carolina State	Food Science
		Ohio State	Food Science and Technology
		Oklahoma State	Interdepartmental PhD in Food Science
		Oregon State	Food Science and Technology
		Pennsylvania State	Food Science
		Purdue	Food Science
		Rutgers	Food Science
		Texas A&M	Food Science
		Arkansas	Food Science
		California at Davis	Food Science
		Florida	Food Science and Technology
		Georgia	Food Science and Technology
		Idaho	Food Science
		Illinois	Food Science and Human Nutrition
		Maine	Food Science and Human Nutrition
		Maryland, College Park	Interdepartmental PhD in Food Science
		Massachusetts	Food Science
		Minnesota	Food Science
		Missouri - Columbia	Food Science
		Nebraska-Lincoln	Food Science and Technology
		Tennessee at Knoxville	Food Science and Technology
		Wisconsin-Madison	Food Science
		Utah State	Nutrition and Food Sciences
		Virginia Polytechnic Institute and State	Food Science and Technology
		Washington State	Food Science and Human Nutrition

3. Specifics

I. Credential Granted on Successful Completion of Program

Doctor of Philosophy [Discipline = Food Science]

As can be seen in A.2.VII, the name of the discipline associated with the credential is the same name as in many other North American educational institutions and the discipline associated with the degree has been well established internationally since the 1940s.

Accreditation for the new degree is not required by an external body.

II. Program Description

a) Admission requirements

In addition to the admission requirements of the Faculty of Graduate Studies, the student must hold a research-based Master of Science degree in the general areas of food or nutritional sciences from a recognized university. The student must attain a minimum University of Manitoba equivalent GPA of 3.5 in Masters' coursework. Students with a Master of Science in a different scientific discipline will be considered by the Food Science Graduate Studies Committee on a case by case basis.

Following assessment of the suitability of the student for the PhD program, potential advisors are identified based on the student's interests or abilities and experience by the Chair of the Food Science Graduate Studies Program. Potential advisors are alerted to examine the student application package, with scanned documents being circulated to potential advisors if necessary. A decision is to be made within 10 days. If one of the potential advisors wishes to select the student as a PhD candidate, the advisor is asked to identify (in broad terms) the research area that the student will pursue. The student is then evaluated by the Food Science Graduate Studies Committee for his/her suitability for Ph.D. study. If the student is deemed suitable, then the application package is returned to the Faculty of Graduate Studies for final acceptance. If the student is deemed unsuitable, then the potential advisor is informed of the Committee's decision and further clarification may be requested of the student prior to formulation of a final decision by the Department. If no potential advisor is identified, then the application package is returned by the Admissions Administrator to the Chair of the Food Science Graduate Studies Committee for signing off for rejection and application package is forwarded to the Faculty of Graduate Studies.

b) Course requirements

All students will be required to take 12 credit hours of courses at the 7000 level. Of these 12 credit hours, 6 credit hours are expected to be selected from the courses below:

FOOD 7090 Unit Process Operations Cr.Hrs.3 A study of unit operations which are commonly utilized in the food industry with emphasis on separation processes, particle size reduction and heat transfers. Prerequisite or co-requisite: FOOD 3210 or equivalent.

FOOD 7130 Food Science Seminar Cr.Hrs.3 Verbal and written presentation of selected topics in Food Science.

FOOD 7150 Food Proteins Cr.Hrs.3 An examination of the structural and functional properties of proteins in foods. Laboratory sessions will emphasize experimental approaches to study proteins in foods, including topics such as surface characterization, thermal properties, rheological behaviour, and chemical modification.

FOOD 7160 Food Carbohydrates Cr.Hrs.3 A study of the chemical properties and functionality of food carbohydrates. Laboratory sessions will focus on quantitation, structural characterization, thermal properties and rheological behaviour of carbohydrates.

FOOD 7180 Food Science of Cereal Grains Cr.Hrs.3 The course deals with cereal grains used for human food, the structure of constituents, and the relationship of constituent structure to functionality in the processing of the grains into food products.

Emphasis will be on constituents and properties that contribute to optimum processing of wheat. Prerequisites: Permission of instructor.

FOOD 7200 Advanced Food Microbiology Cr.Hrs.3 Detection and quantitation of food-borne micro-organisms and related toxins using developing methodology, including rapid microbiological assays with a comprehensive account of basic principles and advanced techniques. Prerequisites: FOOD 4150 or consent of instructor.

FOOD 7240 Topics in Food Science Cr.Hrs.3 An in-depth study of selected topics of current relevance in Food Science. Prerequisite: written consent of department head

FOOD 7260 Advanced Meat Science Cr.Hrs.3 Builds on fundamental aspects of muscle biochemistry and function to explain how pre- and post-harvest technology affect meat quality and safety. Issues of current concern, their resolution, as well as recent advances will be discussed. Prerequisite: Consent of instructor.

FOOD 7270 Food Rheology Cr.Hrs.3 Evaluation of the textural properties of foods provides critical information in the development of quality food products. This course deals with the principles and methodologies in food rheology and includes an examination of the rheological properties of selected food systems.

c) Procedures for evaluation of students

These are governed by General Regulations (Ph.D.) of the Faculty of Graduate Studies in relation to course work and satisfactory progress in thesis research. Students who wish for clarification on this matter should seek the advice of their Advisor, or the Chair of the Food Science Graduate Studies Committee.

d) Thesis regulations

Regulations on Program of Study, Advisory Committee, Thesis Regulations, Thesis Examination Procedures and Publication and Circulation of Theses are governed by the General Regulations (Ph.D.) of the Faculty of Graduate Studies. As stipulated in these General Regulations, the student must pass a Candidacy Examination at least one year prior to expected graduation.

The Candidacy Examination is comprised of two parts: a written examination and an oral examination. Questions for the written examination will be submitted from all members of the Advisory Committee, and the student informed of the general area in which each member will submit questions. The written examination is comprised of a take home examination that will take place over a period not exceeding 96 hours. The student must pass both the written and oral part of the Candidacy Examination in order to pass. In the event that a student fails the Candidacy Examination, the second attempt will be convened by the Department Head, who will act as a Chair in an ex officio capacity. If the Department Head is member of the student's Advisory Committee, then the Chair of the Food Science Graduate Studies Committee or her/his designate will chair the oral and written components of the second Candidacy Examination.

In certain circumstances, the student's Advisory Committee may unanimously recommend that the written component of the Candidacy Examination be waived. This will only occur when the student has demonstrated superior academic performance, excellent command of science and language, and sound critical thinking skills.

In regards to the style and format of the PhD thesis, a thesis guideline booklet is available from the Faculty of Graduate Studies. Style and format specified in the booklet are to be adhered to.

e) Ability to transfer courses into the program

In line with regulations of the Faculty of Graduate Studies, up to six credit hours of courses may be transferred for credit in the Food Science PhD program, provided that the courses are approved by the student's Advisory Committee, the Food Science Graduate Studies Committee and the Faculty of Graduate Studies.

f) Supplemental regulations

None.

4. Projections and Implementations

1. Sample Program Listing for a Typical Student

Year 1 Sept	Establishment of Advisory Committee
Year 1 Sept	Start Course Work, e.g., Food Proteins, Chemistry & Function of Food Lipids and Nutraceuticals in Human Health courses
Year 1 Dec	Complete Course Work (Term 1)
Year 1 Jan	In consultation with Advisor, start planning scope of Research Proposal
Year 1 Jan	Start Course Work, e.g., Topics in Food Science
Year 1 Apr	Complete Course Work (Term 2)
Year 1 May	Submit Research Proposal to Advisory Committee
Year 1 Jun	Advisory Committee formally convened to review Research Proposal and assess student progress in Course Work
Year 1 Jul	Start of Thesis Research
Year 2 Sept	Start Course Work, e.g., Food Seminar course
Year 2 Oct	Student prepares for Candidacy Examination
Year 2 Dec	Candidacy Examination
Year 2 Apr	Complete Course Work
Year 2 May	Advisory Committee formally convened to review research progress
Year 3 Mar	Student submits abstract from thesis research to national or international scientific meeting
Year 3 May	Advisory Committee formally convened to review research progress and formally agree upon protocols for completion of thesis research
Year 4 Sept	Student presents research results and their interpretation at national or international scientific meeting
Year 4 Dec	Advisory Committee formally convened to review student's plans for writing up of thesis
Year 4 Jan	Student begins writing up of thesis
Year 4 May	Student submits thesis to Faculty of Graduate Studies
Year 4 Jun	Student continues writing papers from thesis for submission to peer-review journals
Year 4 Aug	Student defends thesis and completes requisite corrections

II. Estimated Enrolment for First 5 Years of Program

Years 1 to 3: 3 students per year

Years 4 to 5: 4 students per year

The projection for Years 1 to 3 is based on average enrolment in the Food Science component of the Interdepartmental PhD in Foods and Nutritional Sciences, a figure that is commensurate with the research capacity of faculty members and their ability to support those students through external sources of funding. There will be some faculty renewal in the Department in the near future and the research programs of the Department's CRCs are expected to get fully ramped up in the near future, so that a 33% increase in historical levels of PhD students is projected for Years 4 and 5.

III. Distance Education Intentions

None foreseen.

IV. Schedule for Implementation

March 2008: Submission of CoPSE Statement of Intent to Faculty of Graduate Studies

May 2008: Approval of full proposal by Food Science Department Council and Faculty of Agricultural & Food Sciences Faculty Council

June 2008: Submission of approved full proposal to Faculty of Graduate Studies

March 2009: Deadline for first student applications to new PhD program

May 2009: Acceptance of new applicants to program

September 2009: New PhD program commences.

B. HUMAN RESOURCES

1. Faculty

I. List of Faculty Members Associated with Program

Faculty Member	Rank	Tenured	Expected Association
Amfield, S.	Professor	Y	A,C,T
Beta, T.	Associate Professor	Y	A,C,T
Blank, G.	Professor	Y	C,T
Bushuk, W.	Professor Emeritus	Y	C
Edney, M.	Adjunct Professor	N	A,C,T
Edwards, N.	Adjunct Professor	N	C,T
Fulcher, G.	Professor, Head	Y	A,C,T
Hatcher, D.	Adjunct Professor	N	A,C,T
Holley, R.	Professor	Y	A,C,T
Hydamaka, A.	Instructor II	N	C
Izydorczyk, M.	Adjunct Professor	N	A,C,T
Jones, P.	Professor	Y	A,C,T
Mazza, G.	Adjunct Professor	N	A,C,T
Rempel, C.	Adjunct Professor	N	A,C,T
Sapirstein, H.	Associate Professor	Y	A,C,T
Scanlon, M.	Professor	Y	A,C,T
Trevan, M.	Professor, Dean	Y	A,C,T
Zawistowski, J.	Adjunct Professor	N	C,T

A: Thesis advisor; C: Thesis committee member; T: Course teacher

II. Faculty Curricula Vitae and Impact on Teaching Loads

CVs of faculty members are provided in Appendix A.

There is not expected to be any impact of the proposed program on teaching loads due to the proposed program being a re-definition of the Interdepartmental PhD in Foods and Nutritional Sciences.

2. Support Staff

Support staff are well integrated into the delivery and the administration of the Department's graduate program. Technical support staff provide on-going maintenance and calibration of scientific equipment, assistance in the training of graduate students (in safe and accurate practices), and in some cases in trouble-shooting during graduate students' research experiments. Technical support staff also provide computer training and assistance to the majority of graduate students.

Clerical support staff are essential to the administration of the activities of graduate programs in the Department. Administration of admissions, examinations, stipends and teaching assistantships for graduate students requires a significant portion of the Department's secretary and administrative assistant's time. About 40% of this workload is attributed to administration of PhD students. The need for new resources for administrative purposes is not foreseen since the administration and admission assessments for students in the Interdepartmental PhD in Foods and Nutritional Sciences is currently performed by the office administrator in the Department of Food Science.

3. Other

C. PHYSICAL RESOURCES

1. Space

See Appendix B for *Resource Implication Statement* from the Director of Student Records.

I. Students

Students are required to share office space (ranging from 2 to 7 per room, depending on room size); each student has a separate desk for study and a shelf for storage. All of these offices have high-speed network connections identical to those of Department staff, and these are available for personal computer use of graduate students.

A reading room (which contains reference books, rather old food science textbooks and back issues of some journals) is available for student use.

Laboratory space in the Department is adequate to crowded depending on the number of graduate students and the extent to which their research requires specialized apparatus.

Three laboratories are dedicated to housing of general use equipment (e.g., centrifuges, proximate analysis, microscopy/chromatography, mechanical testing equipment). A wide variety of modern analytical equipment is accessible in the Richardson Centre for Functional Foods and Nutraceuticals.

For food processing research, the Department has three pilot plants available for graduate students. One of these, in the Dairy Building, has facilities for manufacture of a range of dairy products under certified sanitary conditions. The other two pilot plants are in the Ellis Building and the Richardson Centre for Functional Foods and Nutraceuticals, and these pilot plants contain a variety of process equipment for non-dairy processing research. The Richardson Centre also hosts the milling and baking laboratories that are an integral part of the cereal science program of the Department.

II. Administrative

The General Office contains the necessary facilities to administer the proposed PhD program. The office of the Chair of the Food Science Graduate Studies Committee is currently located in Room 201, Dairy Science Building.

2. Equipment

I. Teaching

All instructional equipment required for the delivery of courses/workshops/seminars in the program is currently in place. This will be updated on a periodic basis, but the acquisition of new facilities explicitly for the new program is not foreseen.

II. Research

The research strengths identified in A.2.II are well supported by modern research tools and instruments, much of it purchased with NSERC and CFI funds won competitively. In addition, there is a significant amount of food process equipment for conducting pilot scale analyses of various types of food materials.

Photochemiluminescence unit for measuring antioxidant activity, Two computerized HPLCs (Agilent Models 1090M and 1100), Milton Roy Spectronic 1001+ Scanning UV-VIS spectrophotometer, Newport RYA-4 (rapid visco-analyzer), Minolta CM3500d colour spectrophotometer, TA.XT2 Texture Analyzer, Zwick mechanical testing systems with wide variety of food testing fixtures, Buhler Laboratory mill, Ox-Tran (Oxygen transmission rate testing machine), FTIR spectrometer, UV/Vis spectrophotometer, High speed homogenizer, Differential scanning calorimeter, Autoplate 4000 Spiral plater, quartz cell resonator, Laminar flow hood, Incubators (aerobic, anaerobic), environmental shaker-incubator, High performance liquid chromatograph, Fluorescence microplate reader, Extruder, Superheated steam unit, 2 Rheometers, 2 Tektronix oscilloscopes, 2 temperature-regulated blanching kettles, Autoclave, GLC, 2 spectrophotometers, luminometer, refrigerated and micro-centrifuges, meat processing equipment (smoke houses, stuffer, cutter), PFGE apparatus, phase contrast light microscope, Micronizer - pilot scale, fluidized bed drier, hot-air oven, 2 frying stations, 2 walk-in coolers, 2 walk-in freezers, 2 walk-in environmental chambers, retort, canning machine, 2 freeze driers, vacuum evaporator, drum drier, pasteurizer, cheese vats, continuous ice cream freezer.

Equipment planned for retirement include: One HPLC (Agilent 1090M), Milton Roy spectrophotometer, Autoclave, Autoplate, Computers.

Equipment planned for purchase (dependent on availability of funds) include: Solvent extraction unit, Mass spectrometer, Scanning UV-VIS spectrophotometer, Gas Chromatograph for carbohydrate analysis, 2 HPLC, Vacuum microwave, Autoclave, Biosafety hoods, PFGE apparatus, Gel Doc monitor, Autoplate, Computers, Incubators.

3. Computer

Generally, graduate students are not provided with computers by the Department, but some students have computers in their offices that operate on Windows XP or 2007. All graduate students have access to a shared facility with 5 computers that possess a variety of data processing, word processing, statistical and graphing software. Additional computers are interfaced with equipment and are potentially available to graduate students when the equipment is not being utilized.

One scanner and three laser jet printers (one in the Dairy Science Building) are available.

All students are required to have e-mail accounts (cc.umanitoba.ca).

All graduate student offices have computer connections for high-speed internet access if graduate students have their own computer.

See Appendix C for *Resource Implication Statement* from the Director of Information Services Technology.

4. Library

Students in the PhD program must acquire their research information from primary sources. For research in food science and technology this primarily means accessing research papers in peer-reviewed journals, although some information is acquired from textbooks. Electronic access to many thousands of journals through the University of Manitoba libraries system ensures that students in the program will have rapid access to the latest developments in the field and have access to cutting-edge developments in the physical and biological sciences.

No new resources are envisaged as being necessary to support the new program.

See Appendix D for *Resource Implication Statement* from the Director of Libraries.

5. Department Comments on Library Resources

It is clear that the transformation of the PhD degree in Food and Nutritional Sciences into a PhD degree in Food Science will not be adversely compromised by a lack of library resources. Over time, the Department aspires to support the enhancement of the monograph holdings that will prove useful for the PhD, MSc and BSc degree programs in Food Science.

D. FINANCIAL RESOURCES

1. Delivery Costs

I. Costs Associated with Human Resources Implications under Headings B. 1, 2 & 3

None foreseen other than those currently associated with the running of the Interdepartmental Ph.D. in Food and Nutritional Sciences.

II. Costs Associated with Physical Resources Implications under Headings B. 1, 2 & 3

Although accommodation of the current number of graduate students would be easier with more physical space, continuous reorganization of physical resources permits growth of the program without compromising on the quality of research infrastructure accessible to students.

III. Costs associated with research not covered above

None, other than the continuing need for infrastructure renewal, which is anticipated to come from funds leveraged by faculty members into the Indirect Costs of Research program.

2. Student Support

In the past, many food science students in the Interdepartmental Ph.D. in Food and Nutritional Sciences have secured scholarships from federal and provincial agencies and from industrial sources. We foresee that such research support for high-quality students will continue in the new program. All potential PhD research advisors also possess research funds so that other students will be supported by student stipends from research funds. In addition, some international students will be supported by foreign government fellowships, as has happened in the past. Finally, there are a limited number of fellowships directed towards supporting graduate students in the Department, e.g. Barlow Fellowship, that will be potentially available to students in the new PhD program.

3. Identification of new financial resources

Ongoing dialogue between potential sponsors and university personnel at Department, Faculty and University levels is a means of identifying potential means of new financial resources for supporting the program.

4. Balance sheet

	Year 1	Year 2	Year 3	Year 4
	(2009-10)	(2010-11)	(2011-12)	(2012-13)
<hr/>				
COSTS				
Office Administrator ¹	7,000	7,200	7,400	7,700
REVENUE				
Department funds	7,000	7,200	7,400	7,700
Tuition fees				
<hr/>				

¹ 10% of FTE including staff benefits

E. SUPPORTING DOCUMENTS

See Appendix E for letters of support from outside groups/agencies/organizations.

APPENDIX A

CVs of faculty members are provided in Appendix A.

APPENDIX B

Appendix B has the *Resource Implication Statement* from the Director of Student Records.

APPENDIX C

Appendix C has the *Resource Implication Statement* from the Director of Information Services Technology.

APPENDIX D

Appendix D has the *Resource Implication Statement* from the Director of Libraries.

APPENDIX E

Appendix E has letters of support from outside groups/agencies/organizations.

Report of the Senate Planning and Priorities Committee on the proposal to introduce a Ph.D. Program in Food Science

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found on the website at:
http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/508.htm, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.
2. The Programs and Planning Committee of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing new graduate programs and makes recommendations to FGS Council.
3. The FGS Council recommends that Senate approve a New PhD Program in Food Science in the Department of Food Science in the Faculty of Agricultural and Food Sciences.

Observations

1. The committee noted that this proposed Ph.D. program has been developed to replace the Food Science aspect of the current interdisciplinary Ph.D. in Food and Nutritional Sciences to more effectively address the evolving needs of institutions and organizations in Manitoba, Canada and internationally. The periodic graduate program reviews of the Masters program recommended the development of the Food Science Ph.D. to unite all Food Science Graduate Students within the Department Food Science and to effectively address the growing demand by students and the community for this particular area of study within the Faculty of Agricultural and Food Sciences. It was further noted that the graduate program reviews pointed out that there would be student recruitment advantages to having a suite of programs from the Bachelor to the Ph.D. level which would result in better and more applicants for both the Departments of Food Science and Human and Nutritional Sciences. The committee noted that the departments pursue two different kinds of research lines and are two different kinds of enterprises; the overlap on courses, however, could still be maintained within the Ph.D. programs.
2. In addition, the committee noted that no additional resources will be required to implement this proposed program. The Faculty's existing human and physical laboratory resources currently allocated to delivery of the Interdepartmental Ph.D. in Food and Nutritional Sciences will be used to the deliver the proposed Ph.D. Program.
3. The committee noted that the proposal documentation provided strong letters of support for the development of this new Ph.D. Program from the Canadian Grain Commission, the Canadian International Grain Institute and the College of Agriculture and Bioresources at the University of Saskatchewan.
4. The committee noted that the proposal provided documentation which indicated that the University of Manitoba Libraries staff has reviewed the library resource needs for the proposed program and has indicated the libraries' journal and monograph collections are

adequate to meet the needs of the proposed program. The report also indicated that the William R. Newman Library has access to gift funds and other funds that will be used as the program evolves further.

5. The Faculty of Agricultural and Food Sciences has indicated that while there are some limitations for student space, no additional equipment, classroom, laboratory and study space would be required. Students' instructional and study space needs could be readily accommodated by the existing resources of the Faculty and at the Richardson Centre for Functional Foods and Nutraceuticals.

Recommendation

The SPPC recommends THAT:

Senate approve and recommend to the Board of Governors that it approve a Ph.D. Program in Food Science in the Department of Food Sciences in the Faculty of Agricultural and Food Sciences. The Senate Committee on Planning and Priorities recommends that the Vice-President (Academic) not implement the program until satisfied that there would be sufficient existing space and funding to support the ongoing operation of the program.

Respectfully submitted,

James Blatz, Chair
Senate Planning and Priorities Committee



UNIVERSITY
OF MANITOBA

Office of the Dean
Faculty of Graduate Studies

John Doering, Ph.D., P.Eng.,
FCSCE
500 University Centre
Winnipeg, Manitoba
Canada R3T 2N2
Telephone: (204) 474-

Date: May 21, 2009

To: Jeff LeClerc, Office of the Univ. Secretary, 312 Admin

From: Dr. John (Jay) Doering

Re: New Graduate Program:

The Faculty Council of Graduate Studies met on Thursday, May 21, 2009 and unanimously endorsed the proposed new Ph.D. in Human and Nutritional Sciences program.

We are now forwarding the proposal to Senate for approval.

1. The Dept. of Human & Nutritional Sciences - Ph.D. in Human Nutritional Sciences. Please review the:
 - Program Proposal (Att**A**)
 - External Reviewers' Report (Attach**B**)
 - Departmental Response (Attach**C**)

/jc

Report of the Faculty Council of Graduate Studies on New Programs

Preamble

1. The Faculty of Graduate Studies has responsibility for all matters relating to the submission of graduate course, curriculum and program changes, and new graduate programs. Recommendations for new programs or changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Dept. of Human Nutritional Sciences, Faculty of Human Ecology.

Observations

1. The Dept. of Human Nutritional Sciences proposes the introduction of a Ph.D. in Human Nutritional Sciences. It is intended that this Ph.D. program replace the Human Nutritional Sciences aspect of the current Individual Interdisciplinary Ph.D. in Food and Nutritional Sciences. Please review the:
2.
 - Program Proposal (Attach. A)
 - External Reviewers' Report (Attach. B)
 - Departmental Response (Attach. C)

Recommendations

The Faculty Council of Graduate Studies endorses the proposed Ph.D. in Human and Nutritional Sciences and recommends that it be forwarded to Senate for approval.

Respectfully submitted,



Dean J. Doering, Chair
Graduate Studies Faculty Council

A. PROGRAM DESCRIPTION

1. Rational, objectives and features

I. Clearly state the rational for the program.

The Interdepartmental Ph.D. program was established when the critical mass for a Ph.D. in Foods and Nutritional Sciences was not present in any of the four departments participating in this program- the Departments of Animal Science, Plant Science, Food Science and Foods and Nutrition. In addition, the previous focus of these departments has been foods oriented and the focus of the Interdepartmental Ph.D. was on improving agricultural products in Manitoba. The Departments of Animal Science and Plant Science have separate Ph.D. programs and have not had a PhD student in the Interdepartmental PhD program in the past 10 years. In conjunction with this application, the Department of Food Science also is submitting a proposal to establish a PhD program, with the intention of phasing out the current Interdepartmental program.

In the Department of Human Nutritional Sciences (HNS), particularly over the past ten years, the critical mass of research intense staff in the Department has increased and the research focus has evolved into investigations that are better suited to doctoral training. In addition to strengthening the food-related aspect, there is currently a significant focus on nutrition in health and disease, both from a basic metabolic approach and an applied social sciences approach. For those students interested in the basic metabolic and social science aspects of human nutrition in health promotion and disease prevention, the current Interdepartmental Ph.D. program, which focuses on food products in agriculture, is not optimally relevant, but is where most are currently housed because of lack of an appropriate alternative.

Students currently enrolled within the program have expressed that having a Ph.D program in HNS would be an important opportunity for them. In addition to the reasons stated above, a Ph.D. in HNS would give them a true sense of belonging, rather than being spread across several departments and programs. Just as importantly, having Ph.D. students within the Department will enhance the education and research experience of the M.Sc. students in the Department. The importance of didactic and experiential interaction between Ph.D. and M.Sc. students as well as faculty members cannot be underestimated.

In the graduate program review conducted this year by members both internal and external to the province, a strong recommendation was made to institute a Ph.D. program in the Department of HNS. It noted that the Interdisciplinary Ph.D. program in Foods and Nutritional Sciences is no longer suitable for students interested in human nutritional. As well, a Ph.D. program would enhance the visibility of the Department nationally and internationally and aid in recruiting students from outside the province and overseas.

II. Clearly state the objectives of the program.

- To provide a focused research-training program in the area of human nutrition.

- To train individuals who can understand, create and undertake hypotheses-based approaches to research.
- To train individuals with a variety of techniques and approaches to study human nutrition.
- To develop a keen sense of analytical thinking and logic in the evaluation of one's own work as well as that of others.
- To create effective teachers and communicators of human nutrition.
- To foster independence in thinking, laboratory work, teaching and communicating.
- To train individuals to prepare and articulate proposals related to human nutrition.

These objectives outlining the training of highly qualified individuals in the nutritional sciences are in line with the stated mission and vision of the Department of HNS:

The mission of the Department of HNS is to be one of the leading organizations in promoting human health and quality of life through generation of advanced knowledge and training of tomorrow's leaders in nutrition. The sciences of human nutrition integrate concepts in metabolism, food and community nutrition, with subject areas ranging from the roles of food and nutrients at the cellular and molecular levels to interactions with behaviours of the human population. The vision of the Department of HNS is to be a department that makes outstanding contributions to the health and well-being of individuals and populations through its innovation and leadership in research and advanced education in the area of nutrition, food and health.

III. Indicate how the program fits within the research/academic priorities of the unit and faculty/ school.

Currently the Department of HNS has an excellent record of research funding. For instance, six out of eight eligible faculty members currently hold NSERC grants, with several new members planning to apply for NSERC funding this year. Department members also hold grants from CIHR, MHRC, MMSF, ARDI, ABIP and AFMNet as well as grants from various provincial, industry and private agencies and human health foundations. The success of this pattern of funding reflects a strong human health, as well as agricultural focus within the Department. The Department currently holds over \$2 million/year in research funding. In the last ten years the number of faculty has increased by 33% and it is now one of the largest departments of its kind in Canada. Additionally, the Department is currently recruiting to fill three more faculty positions: one of these is a research chair position in nutrigenomics that will increase the research profile as well as number of graduate students within the department. The addition of these three faculty members will double the number of faculty members compared to when the Interdepartmental PhD in Food and Nutritional Sciences was implemented.

IV. Highlight novel or innovative features of the program.

The truly unique aspect of this program in Canada is the complement of nutritional scientists who research the area of human nutrition and foods from metabolic, experimental, community and social science perspectives. Research in experimental nutrition explores the role of foods and nutrition within basic biological processes and health from the whole organism to the cellular level. Community and clinical nutrition research focuses on policy development, food choice behavior and novel approaches to health promotion and disease management. Research related to foods includes investigations of the quality and stability of ingredients, development of functional and nutraceutical components from grains, oilseeds and legumes, and consumer preference and sensory characteristics of foods.

A multidisciplinary approach to research is common, with linkages to university departments such as medicine, agricultural and food sciences, management, dentistry, nursing and physical education and recreation studies, as well as with the Richardson Centre for Functional Foods and Nutraceuticals and the Canadian Centre for Agri-food Research in Health and Medicine. Collaborations outside the University also exist with organizations such as the Canadian International Grains Institute, the Grain Research Laboratory, the Food Development Centre, Agriculture and Agri-Food Canada, Manitoba Health, the Winnipeg Regional Health Authority and the Manitoba Institute of Child Health.

2. Context

I. Indicate the extent to which the program responds to current or future needs of Manitoba and/or Canada.

Our current graduate program houses 20 full-time M.Sc. students, under the supervision of 13 full-time faculty members. In addition, there are nine students currently registered in the Interdepartmental Ph.D. in Foods and Nutritional Sciences program that are supervised by the faculty in the Department of HNS. More importantly, it is not known how many students simply do not consider the University of Manitoba for Ph.D. studies in human nutrition because of the lack of a visible program in the area. The Department of HNS is one of the largest in Canada and is larger than many that do offer Ph.D. programs in human nutritional sciences.

Additionally, four students have indicated their intention to pursue Ph.D. studies under the supervision of a member of the Department. Hence, in the following year, there potentially will be 15 Ph.D. students supervised by members of the Department of HNS. Of the 11 current students, nine are pursuing studies that would be directly appropriate for this program. With three new faculty members being hired in the last year who currently do not have any students, as well as currently searching for three additional faculty members (two at the full professor rank), the number of students enrolled will increase. It is expected that in 5 years a ratio of 1.5-2 PhD students per faculty member will result in 25-30 PhD students in the program.

It is important that the province have a visible program in HNS to train highly qualified researchers in the area of human nutrition, functional foods and nutraceuticals. Public interest in their health and nutritional status is very high and with the escalating costs of health care, preventative strategies to optimize health and treat chronic disease are of paramount importance. The expansion of the Department and inclusion of new faculty members will aid in recruitment, training and mentorship of these highly qualified personnel. Indeed the presence of this program will allow the province to become a leader in the area of preventative medicine, as related to nutrition in health and disease. The province has made the development of functional foods and nutraceuticals a priority and the recent establishment of the Richardson Centre for Functional Foods and Nutraceuticals (RCFFN) and the Canadian Centre for Agri-Food Research in Medicine (CCARM), in addition to the earlier establishment of the Food Development Centre, highlights the importance of this area to Manitoba and Canada. This Ph.D. program (along with the co-proposed PhD in Food Sciences) is an important part of this initiative. The Department of HNS is an integral part of these programs and is required to study the nutritional, metabolic and consumer safety issues surrounding these products. Industry expects the consumer to accept and consume these products and as such it will be imperative to understand community behavior and willingness to purchase and utilize these food products. Public policy will need to be developed in response to demand for new food products and safety issues surrounding them. Metabolic studies in animals and in cell culture systems will be needed to understand the mechanisms of action of these novel products. The Ph.D. program in HNS will be vital to the future research activities of Manitoba in this area.

II. What is (are) the particular strength(s) of the program?

The strengths of the program are: 1) the range and integration of subject areas related to the science of human nutrition including: basic and clinical nutrition, metabolism, community nutrition and food research; 2) research in experimental nutrition and toxicity, nutrigenomics, food sensory and consumer acceptability, and dietary management of the chronic diseases especially cardiovascular, diabetes and kidney disorders.

What will outsiders know the program for in terms of areas of concentration or specialization?

The program will be known for having a strong human nutrition science disciplinary focus, while at the same time promoting the acquisition of knowledge, and its interpretation in a human nutrition context. This will occur through focused, high quality research under the direction of a specified chosen researcher, in conjunction with coursework and will contribute to the education process and development of expertise in human nutrition.

IV. Indicate the extent to which the program extends or uses existing programs at The University of Manitoba as a foundation.

The Program is designed to make optimal use of resources available to the Department of HNS including well equipped laboratories such as the Nutritional Sciences Research Facility, RCFFN, CCARM, and the George Weston Ltd. Sensory Food Research Laboratory. Students will be transferring in from the MSc program and undergraduate program in the same Department at the University of Manitoba. While this program will not be delivered jointly with another institution, students may transfer from relevant programs, such as community health, allied health, sciences, biochemistry, physiology, etc., in other Manitoban, Canadian or international institutions. Furthermore, there is already a close collaboration with the Canadian Centre for Agri-Food Research in Health and Medicine, the Food Development Centre, the Richardson Centre for Functional Foods and Nutraceuticals and the Department of Food Sciences. Current and future graduate students will benefit from collaboration with these highly specialized centres.

V. Indicate the extent to which the program enhances co-operation among Manitoba's universities.

The University of Manitoba is the only university in Manitoba that offers a program in human nutrition at either the graduate or undergraduate level. Students from the University of Winnipeg, Brandon University, and St. Boniface College have pursued graduate studies in the Department of HNS.

VI. Indicate the extent to which the program is likely to enhance the national/international reputation of The University of Manitoba.

As medical costs continue to climb and countries are forced to examine alternatives to costly health care, and preventative measures, nutritional interventions are becoming increasingly deemed as desirable alternatives. Hence, a highly qualified individual in human nutrition will be in increasing demand as time goes on. Also, as the nutraceutical industry continues to expand, the need for individuals trained in assessing the nutritional, safety, consumer and policy issues will continue to grow in both the private and public sector. Human nutrition is a well-recognized field of study receiving attention from public sectors, health professionals and industrial sector partners.

VII. Indicate where similar programs are offered in Canada and North America. Below is a sample of universities with similar programs.

Canada	United States
University of Guelph	Iowa State University
Laval University	University of Arizona
University of Alberta	Kansas State
University of Toronto	Penn State
McGill University	San Diego State University

3. Specifics

- I. Indicate the credential (degree or diploma) to be granted a student on successful completion of the program. Where a new credential is being proposed, provide:**
- a) Rationale for the name**

The credential being offered is a Ph.D. degree {Doctor of Philosophy in Human Nutritional Sciences}, since it will be a research degree.

- b) An indication of whether the credential is offered under the same name, similar or different names elsewhere (and if different, state why a new name is chosen)**

same name (PhD)

- c) A list of those (individuals, groups, universities, organizations etc.) consulted in arriving at the new name**

The name (PhD) is long- and well-established internationally.

- d) An indication of whether accreditation for the new - degree is required by an external body**

Accreditation of this degree will not be required.

- II. Describe the program under the following headings:**
- a) Admission requirements**

Students will typically, but not necessarily, be required to have a Master's degree in HNSs for admittance. In addition, applications from other disciplines will be considered by the HNS Graduate Studies Committee (HNSGSC) on a case-by-case basis. Applications from outside of the discipline may come with a wide range of professional and research experiences, which will serve to enrich the group. Research experience (beyond the MSc degree) will not be necessary but will be favorably considered. Upon entry into the program, the academic record of the entering students will be analyzed, and appropriate supplementary courses will be suggested in order to ensure the academic success of the students enrolled in the program. The relevance of this program in many fields will attract applicants from outside Manitoba and outside Canada.

Students may also be admitted to the PhD program by transferring from the MSc program in the Department. A transfer from the MSc program in HNS to the PhD program will be considered by the HNSGSC under the following conditions:

1. The student has completed a minimum of 18 months and a maximum of 24 months in the MSc program at the time of application for transfer.
2. Both the student and the Supervisor request, in writing, the student's transfer to the PhD program. This request should be made to the HNSGSC. The request should outline the reasons for requesting waiver of the MSc degree requirement for acceptance into the program.
3. All 9 credit hours required in the MSc program, exclusive of HNSC 7200, have been completed, with a minimum GPA in those courses of 3.5.
4. Approval by the student's MSc advisory committee, the Department Head and a member of the Faculty of Graduate Studies who is external to the Department and who will serve as the external member of the student's PhD advisory committee if the transfer is approved. The criteria for approval of transfer by the advisory committee is that the student is a first author of a submitted manuscript on their current research topic in a peer reviewed journal or, in special circumstances, the student furnishes a copy of unpublished research data obtained by the student equivalent to that acceptable for an MSc thesis. In either case, the student will present their data and their PhD proposal to the committee in a 30-45 minute presentation, which will be followed by a question period not to exceed an additional 75 minutes. In addition, all faculty members and graduate students of the Department of HNS are expected to attend this presentation and will have opportunity to question the student. Normally, this presentation will be given to the Department in HNSC 7200 in lieu of a presentation required in HNSC 7200 (normally the poster presentation). The evaluation by faculty members and students of this presentation (as part of the HNSC 7200 course) will be considered by the Department Head and the advisory committee.

All applications to this program will be vetted by the HNSGSC. Prior to admission to the Ph.D. program, each student will be required to specify his/her area of research interest, and to have corresponded with (an) eligible Ph.D. advisor(s) (member of the Faculty of Graduate Studies), who is (are) also willing to accept them into the program.

Applicants must meet the University of Manitoba Graduate Studies general regulations. A complete application will include at least one letter of recommendation from the student's intended advisor(s), attesting to the suitability of the candidate for Ph.D. studies in this program and when applicable another letter from the student's Master's degree advisor or equivalent.

The candidate will also provide a reference letter from someone who can provide general information on the ability of the candidate's ability to complete a graduate program.

The following elements will be taken into consideration in determining the acceptance of the applicant into the program: grade-point average in undergraduate and or Master's courses, previous courses taken, reference letters, specific research interest of the applicant, student's rationale for choosing to apply to this program, research funding and facility availability through the proposed advisor(s) for the proposed research, and financial support for the applicant.

b) Course requirements. Note: if new courses are to be introduced as a result, complete course introduction forms will be required.

For students entering the program with an MSc in HNS from The University of Manitoba, the course-work requirement will consist of a minimum of 6 credit hours in HNS courses. Of these 6 credit hours, three will consist of the seminar course: Human Nutritional Sciences Graduate Seminar. This will result in a total of 18 credit hours being taken in the MSc and PhD programs, if both degrees are taken at The University of Manitoba. Of these 18 credit hours, 15 will be HNS courses.

For students entering the program with an MSc in another discipline or from another university, the course-work requirement will be determined by the HNSGSC. In considering the course-work requirement, the HNSGSC will be guided by the principle that the total number of courses taken in both the MSc and PhD will be the equivalent of 18 credit hours, of which 15 credit hours must be in nutrition. A second guiding principle will be that at least three credit hours of the nutrition courses taken (not including seminar courses) will be from areas not directly related to the research area of the student and supervisor (for example a student in Metabolic Nutrition needs to take at least three credit hours in courses designated in the Community Nutrition or Food area). See course listings below for the different areas offered in the Department of HNS.

For students transferring into the PhD from an MSc in the Department of HNS, an additional 6 credit hours in HNS courses are required, so that the total number of credit hours in course-work taken is 18.

This PhD program is a research intensive degree and the bulk of the work in this program is the thesis work. The number of courses required is based on a comparison of course-work requirements in comparable programs across Canada (see appendix). Although the distribution of course-work requirements for Master's and PhD programs varies somewhat, the total number of credit hours required in most programs across Canada for both MSc and PhD programs is approximately 18. With the six credit hour requirement in the proposed PhD and the current requirement of 12 credit hours in the current MSc program in HNS, this course-work requirement will be consistent with other programs in Canada.

Courses currently offered by the Department in Metabolic Nutrition include:

- Phytochemical Nutrition and Metabolism
- Current topics in Human Nutrition
- Molecular Nutrition (as Special Topics course)
- Protein Nutrition and Metabolism
- Energy and Carbohydrate Nutrition and Metabolism
- Lipid Nutrition and Metabolism
- Vitamin Nutrition and Metabolism
- Minerals and Trace Element Nutrition and Metabolism

Courses currently offered by the Department in Community Nutrition courses include:

- Qualitative Research in Nutrition
- Nutrition Epidemiology
- Nutrition in Public Policy
- Theoretical Approaches to Dietary Change Interventions

- Current topics in Human Nutrition
- Advanced Problems in Nutrition

Courses currently offered by the Department in the Foods area courses include:

- Nutraceuticals in Human Health
- Functional Foods and Nutraceuticals
- Chemistry and Function of Food Lipids
- Flavour Chemistry and Sensory Properties of Foods
- Advanced Problems in Foods
- Current topics in Human Nutrition

Students will also be required to attend lecture/seminar courses during the entire duration of their program as well as yearly research-related activities (poster day, oral presentation day, thesis defenses) involving student presentations. The series of seminars will consist of an admixture of presenters from the University of Manitoba and from outside the university. Poster and oral presentations will involve directed research projects, research proposals, and human nutrition issues. The research program, culminating in the preparation and defense of a doctoral thesis, will be conducted with the approved faculty member(s) in accordance with the regulations of the Faculty of Graduate Studies.

c) Evaluation of student's procedures.

General University of Manitoba FGS guidelines will be used to evaluate students enrolling in the doctoral program. Within three months of registration into the Ph.D. program (or at the time of transfer if the student transfers from the MSc program), the assigned supervisor will ensure that each student has an Advisory Committee in accordance with the FGS guidelines. The Advisory Committee will meet at least once per year with the student and will be chaired by the student's advisor. These meetings will involve discussion with the student on issues concerning basic knowledge, thesis research, progress in course-work, or any other issues which impact on the student experience in the Ph.D. program. The Advisory Committee will give immediate feedback to the student regarding his/her progress. After this meeting, the Advisory Committee will fill out and sign a Graduate Studies Annual Review form, which will be entered into the student's file and submitted to the Faculty of Graduate Studies. In the case of consensus among committee members of unsatisfactory performance, the student may be notified that unless remedial action is taken they will be required to withdraw from the program.

d) Thesis, practicum or comprehensive procedures and regulations

In accordance with the regulations of the Faculty of Graduate Studies, doctoral students will be required to demonstrate competence in planning and conducting a research project, and in disseminating the results. The research proposal must be approved by the Advisory Committee. The proposal itself will take the form of a document outlining the rationale and background for the study, specific objectives, and methods and procedures.

The proposal will be distributed to all members of the Advisory Committee. The proposal will be presented by the candidate in an oral format, lasting approximately forty-five minutes. This presentation will be open to all members of the University of Manitoba community and will be part of the regular Graduate Student Seminar course in the Department. Once approved by the Advisory Committee, the proposal must be submitted to the Department Head for final approval and placed into the student's file.

The regulations of the Faculty of Graduate Studies of the University of Manitoba will govern thesis preparation and final thesis defense. Students in the Department of HNS are encouraged to structure their thesis around manuscripts submitted for publication. The thesis examination committee will normally consist of members of the Advisory Committee, plus an external member (examiner).

The candidacy examination procedures will be as follows:

- I. The objective of the candidacy examination is to give the candidate the opportunity to demonstrate:
 1. Potential as an independent researcher by writing and defending a research grant proposal or a paper outlining the development of a conceptual framework or a new theory that is separate from the thesis proposal;
 2. Ability to critically evaluate the relevant literature, formulate a research question and think scientifically;
 3. A general knowledge of the basic principles in nutrition and foods as pertains to the written proposal.
- II. The candidacy exam will consist of 2 parts:
 1. A written work consisting of a complete submission quality research grant proposal or a publishable paper outlining the development of a conceptual framework or a new theory
 2. An oral defense of the written work

III. Candidacy Examination Committee

The examination committee is to consist of a chairperson, the student's advisor, two faculty members from the advisor's department that are not on the student's advisory committee and an external member who is not a member of any of the departments involved in the candidate's PhD research program. All committee members must be members of the FGS and (except for the advisor) will be selected by the Head of the advisor's department. The external member will be chosen from a list of three names provided by the student and his/her advisor, based on the topic of the written work. The chairperson will facilitate the examination process but will not ask any questions or vote.

IV. Written portion of the exam

The topic of the written work will be chosen by the student. The topic may be related to, but must be distinctly different from the student's proposed research. In both parts of the examination, the student should demonstrate the ability to thoroughly examine a topic with respect to the following: theoretical perspectives, empirical assessment of related research including a critique of methodology, and a critical appraisal of theory and research related to the topic. The grant proposal will be for a three year project and will follow the format of an NSERC strategic grant or a CIHR operating grant, including all modules. It will be assumed that this is a first time applicant, but that all equipment needed for the project is available. The project should represent a significant advancement in the field. The paper outlining the development of a conceptual framework or a new theory is to be 40-60 typed, double-spaced pages, inclusive of references.

The candidate will prepare a brief description of the written work for the advisory committee. The committee will then either approve the topic, or give suggestions for changes that would be required before the written work is prepared. The committee will do this within 2 weeks of receiving the brief description of the written work from the student. Once approved, the Department Head will appoint the examination committee within two weeks. Preparation of the written work should take no more than three months from the time it is approved, and should be given to the examination committee one month prior to the examination date. The examination must be held between 18 and 24 months of starting or transferring into the PhD program and in no case later than one year prior to the expected date of graduation. The candidate should prepare the description of the written work for approval with these deadlines in mind.

The written work is the candidate's intellectual property and the candidate has the exclusive right to it, including the use of it in any future grant application or manuscript submission. The written work will be kept in the student's file in the department and is not available to anyone who does not have access to this file without written consent from the candidate. Candidates are encouraged to discuss the advantages and disadvantages of different experimental approaches with colleagues and with faculty, but the research question, objectives, concepts, theories and methodological approach are to be developed by the candidate.

V. Defense of written work

The candidate should make an oral presentation (maximum of 20 minutes) of the written work, keeping in mind that the examiners will have read it. The questions by the examining committee will be based on the written work, but will be broad enough to assess all of the objectives in section I, including the ability to think critically about the basic concepts and recent advances in foods and nutrition. In the case of the grant proposal, most of the emphasis will be on the research

module, and less on the CV and budget modules. Only the student and the examining committee (including the chair) will be present for the examination.

Immediately after the defense, the examination committee will evaluate the written work and the defense. In order to pass, the committee must unanimously agree that the written work and the defense are acceptable (i.e. objectives 1-4 in section I have been demonstrated). In the case of the paper outlining the development of a conceptual framework or a new theory, once approved by the examining committee, evidence of submission to a peer-reviewed journal must be furnished within two weeks of completion of the oral examination. If there is no unanimity, the committee will decide on the conditions of re-examination. This could include revisions to the written work or preparation of a new written submission on an unrelated topic. If re-examination is required, it must be completed as soon as possible and no later than 3 months after the date of the first examination. If the candidate fails again on the second attempt, the candidate will be required to withdraw from the program. Unanimous approval by all committee members is required for the student to pass the examination.

The final outcome of the examination will be communicated to the FGS by the chair of the examining committee, using the appropriate FGS form. A copy of the form also must be submitted to the Chair of the HNSGC.

e) Ability to transfer courses into the program

Credit for courses completed prior to admission to the Ph.D. program will be considered on an individual basis, consistent with the guidelines of the FGS. As explained above (b), eligible students may transfer their graduate courses in Nutrition (HNSC 7000 level courses or equivalent) upon approval of the HNSGC.

f) Governance/Management of the program

The program will be the responsibility of the Department Head, but will be administered by the HNSGSC. This committee is composed of the Departmental Graduate Program Chair, who chairs the committee, plus 3-5 other faculty members of the Department and one graduate student representative. All members except for the chair are voting members. This Committee will deal with and oversee issues including: admissions, Advisory Committees, thesis proposals, candidacy exams, thesis defense committees, program and thesis plans, yearly evaluation of students, designation of potential Ph.D. advisors, participation program of Ph.D. students (poster day, seminars), and thesis format as traditional vs. published manuscripts. This Committee will meet at the call of the Chair. The HNSGSC will provide the forum for discussion of best practices, information sharing, problems, and feedback concerning the ongoing functioning of the program. An Administrative Assistant will provide support for the HNSGSC.

Besides these academic matters, the HNSGSC will be responsible for recommending allocation of funds available for the functioning of the program. The budget for the program will be administered by the office of the Dean of Graduate Studies (DGS). Recommendations for allocation of funds for the program will be made to DGS by the HNSGSC by vote of the committee members.

4. Projections and Implementations

I Provide a sample program listing for a typical student in the program and a timeline for completion of their studies leading to the credential proposed.

Recent revisions to the course offerings include expanded and updated relevant topics in nutritional sciences. Courses offered in nutrition and metabolism address topics in molecular nutrition, phytochemicals, proteins, energy and carbohydrates, lipids, vitamins, minerals and trace elements. Community nutrition courses include topics in qualitative research, epidemiology, public policy and theoretical approaches to dietary change interventions. Topics related to food research include nutraceuticals, functional foods, functional lipids, flavour chemistry and sensory properties of foods.

Year 1 Students, in consultation with his/her supervisor and Advisory Committee, will take appropriate courses including Human Nutritional Sciences Graduate Seminar (mandatory for all students during all years of program). The student will also prepare a hypothesis-based proposal to present to the Committee for approval and initiate his/her research activities.

Year 2 Students will complete course work, continue on in their research and continue to attend Seminar in Human Nutritional Sciences Graduate Seminar. Before the end of this year, the student must write the Candidacy Exam.

Year 3 Attend Human Nutritional Sciences Graduate Seminar
Complete research, prepare manuscript(s) for publication and incorporate these into their thesis and proceed to thesis defense
Present data in local/national/international meetings

II. Estimate the enrolment for the first 5 years of the program and provide the evidence on which the projection is based.

Initial enrolment is projected to be three students. It is expected to increase these numbers by 2-4 students/year up to approximately 15 students with the current number of faculty. Three new faculty members have been hired this year and three new faculty members (including a research chair in nutrigenomics) are expected to be in place in 2008. As these members initiate their programs, the capacity to train more students will increase. As the number of faculty members continues to grow in response to increased demand by students, enrollment in the doctoral program is anticipated to increase substantially. In

addition, the mere existence of the Ph.D. program will attract students from outside the province, something that is difficult under the current structure.

III. State whether there is an intent to provide some aspects of the program through distance education and if so, how this will be effected.

There are no plans at this time to offer the program through distance education.

IV. Provide a schedule for implementation.

February 2008: Submission of Statement of Intent

March 2008: submission of the full proposal

January-March 2008 Meeting of HNSGC committee to finalize publicity of the program, application procedures, acceptance procedures.

June 2008. Finalization of new courses for the Program.

March 1, 2009. Deadline for first applications to program.

May 1, 2009. Notification of acceptance to applicants.

September, 2009. Program begins.

B. HUMAN RESOURCES

1. Faculty

List all faculty members associated with the program (include adjuncts).

I. For research-based programs (i.e. thesis) indicate their expected association as:

a) Thesis advisors

Dr. Harold Aukema
Dr. Carla Taylor
Dr. Rotimi Aluko
Dr. Miyoung Suh
Dr. Mohammed Moghadasian
Dr. Michael Eskin
Dr. Gustaaf Sevenhuysen
Dr. Peter Jones
Dr. Peter Zahradka
Dr. James Friel
Dr. Christina Lengyel

Dr. Michel Aliani
Dr. Usha Thiyam
Dr. Jim House
Dr. Peter Eck
Dr. Joyce Slater
Dr. L.J. Malcolmson

b) Thesis committee members

Dr. N. Ames
Dr. A. Becker
Dr. P. Fieldhouse
Dr. D. Harvey
Dr. O.M. Lukow
Dr. N. Solomons
Dr. B.M. Watts

c) Course teachers

All of the above

**II. For non-research-based programs (i.e. practicum or comprehensive)
indicate their expected association as:**

a) Student program advisors

N/A

b) Course teachers

N/A

Provide an abbreviated* c.v. for thesis advisors and student program advisors. For others, provide only a list (by year) of graduate courses taught over the last 5 years or a rationale for the individual's inclusion in their respective category.

Indicate the extent of participation of thesis advisors listed in I.a) above in other programs and anticipated participation in the proposed program (using relative measures, e.g. 80/20 split program A/program B).

All thesis advisors listed in I.a) above participate in the proposed program over 95% of the time, with the exception of the following:

Dr. Peter Jones – 50% in proposed program/ 50% in Food Science

Dr. Peter Zahradka – 30% in proposed program/ 70% in Physiology

Dr. Linda Malcolmson – 10% in proposed program/ 90% in Canadian International Grains Institute

Describe the impact of the proposed program on teaching loads.

All of the coursework initially proposed in the new program will involve existing courses in the Department of HNS. Course offerings will evolve and increase with new faculty expertise coming to the Department. Thus, development of this PhD program will not significantly impact our current teaching loads.

2. Support Staff

The Faculty of Human Ecology has secured a 0.5 FTE position to serve as Graduate Studies Coordinator (S. Hubert) for the faculty graduate programs, including the proposed Ph.D. in Human Nutritional Sciences. Additionally, a realignment of administrative functions within the faculty has resulted in additional support for the graduate program through enhanced administrative support for the department head, the allocation of purchasing and travel request services to other personnel in the faculty, and handling of all student stipend and payroll services by an office assistant in the faculty. As a result, the necessary support staff members are in place to administer the proposed Ph.D. program without the need for additional resources.

The Department currently has a single technician who supports research within the research laboratories housed by faculty in Human Nutritional Sciences. These laboratories include those housed at St. Boniface Research Centre, the Richardson Centre for Functional Foods and Nutraceuticals, and the Duff Roblin Building. Since the fire in Duff Roblin (March 28, 2009), and the resulting relocation of staff and students to the research centres, students have had access to additional technical support available within the units. With respect to computer services, IST personnel within Human Ecology (B. MacMillan), St. Boniface Research Centre, and the Richardson Centre support the computing needs of faculty and students. As a result, the technical services (laboratory and computing) are in place to support the proposed Ph.D. program in Human Nutritional Sciences.

3. Other

N/A

C. PHYSICAL RESOURCES

1. Space

Describe the physical space in which the students will carry out this program of study and in which this program will be administered. (Classrooms for existing courses are assumed in place and no comment is required, but may be included if desired.)

The Faculty of Human Ecology currently possesses dedicated space for graduate students in the Human Ecology Building and the Duff Roblin Building. Space for graduate students is being expanded and the expansion of spaces includes the needs of Ph.D. students. However, as the enrollment in our graduate programs increases, we will need additional space. It is anticipated that increased space will be made available as the University of Manitoba undergoes a major reallocation and renovation of space on campus ("Project Domino"). There is the possibility that some students can use space at RCFFN and CCARM, if available.

Addendum (Feb.4, 2010): The Duff Roblin space is currently under renovation as a result of a fire (March, 2009), but will be operational by the end of 2011. Included with the renovations in Duff Roblin are more spaces for graduate students to complement the existing office space available in the Human Ecology Building and the St. Boniface Research Centre. Additionally, the Department of Human Nutritional Sciences has provided indirect costs of research funds to augment the graduate student carrel space in the Richardson Centre.

A 'resource implication' statement is required from the Director of Student Records.

I. Students

Student offices, study carrels, study/reading rooms, rooms with computer connections (if not included in other space), laboratory space, other research or study space as may be appropriate for the program.

We currently have adequate lab/office space to initiate this program. However, the Faculty of Human Ecology will facilitate additional space as the program expands.

II. Administrative

General office, graduate chair office (if applicable).

The Department of Human Nutritional Sciences, supported by the Faculty of Human Ecology, possesses sufficient administrative support (human and physical resources) to provide the proposed Ph.D. program.

2. Equipment

The Department of Human Nutritional Sciences, supported by the Faculty of Human Ecology and the collaborating research centres, possesses sufficient equipment (research infrastructure) to provide the proposed Ph.D. program.

Addendum (Feb. 4, 2010): As a result of the fire, new equipment is being purchased that will provide additional opportunities for training students on state-of-the-art analytical infrastructure.

I. Teaching

Instructional equipment needed in delivery of courses/workshops/seminars in the program (projectors, video, computers, etc.)

The instructional equipment needed is already in place.

II. Research

Major research equipment accessible to graduate students in the program, plans to retire/upgrade equipment or to obtain new equipment over the next 5 years.

The Department of HNS houses laboratories for basic as well as applied research. These are well equipped with modern analytical instrumentation designed to carry out studies of complex materials. Laboratories such as Nutritional Sciences Research Facility, funded through the Canada Foundation for Innovation, are equipped with the tools to carry out research at the cellular and molecular levels, such as fluorescent and chemiluminescent imaging, gene amplification, phosphorimaging, and cell culture facilities. Other analytical equipment accessible to students in HNS include Phastsystem gel electrophoresis unit, amino acid analyzer, electronic nose and electronic tongue, Malvern particle size analyzer, Fast Protein Liquid Chromatograph, spectrofluorimeter, high pressure liquid and gas chromatography equipment, spectropolarimeter, gas chromatography-mass spectrometer (GC-MS) and ultra performance liquid chromatography with tandem mass spectrometer (UPLC-MS/MS). The RCFN and CCARM also provide generous laboratory space and computing facilities for staff and students of HNS. The George Weston Ltd. Sensory and Food Research Laboratory, with controlled ventilation and lighting and a computerized sensory analysis system, provides a controlled setting for testing of food products. This facility is used to evaluate the effects of food ingredients and nutraceuticals, storage conditions and preservation on food quality and consumer acceptance as well as on the commercial viability of a food or food products.

A 'resource implication' statement is required from the Director of Information Services Technology.

3. Computer

Facilities available to graduate students in the program (laptops, PC's, mainframe, scanners, printers, etc.), and anticipated usage of open areas, facilities reserved for students in the program, availability of a University account for use with email, internet access, etc.

Graduate students will have individual access to the University network, email and internet. Computers for graduate students have been made available by the Faculty.

4. Library

a) Describe existing resources available for use in the program

The resources available for the program include the University of Manitoba libraries, including eleven libraries on the Fort Garry Campus and St. Boniface Campus and Bannatyne Campus. Together they contain over two million volumes, subscribe to nine thousand serials, hold a variety of materials in microform and multimedia formats, and provide access to both local and remote databases. In addition, full access to a growing number of electronic journals is becoming available via the libraries.

b) Describe new resources required

A 'resource implication' statement is required from the Director of Libraries.

Your unit should comment on the Library statement and any new resources that are required for the program.

The library statement is attached and recommends initial funding at a level of \$3500 per year, which is expected to increase at 7% per year. This will allow 2 simultaneous users of *FOODnetBASE*, which is needed for doctoral students in HNS.

***Note:** Since the development of the proposal and the submission of the library statement of support, the Library has obtained *FOODnetBASE*, and therefore this item does not need to be included in the current proposal budget.

D. FINANCIAL RESOURCES

1. Delivery Costs

List and describe immediate and projected additional costs involved in running the program.

**I. Costs associated with Human Resources implications under the headings
B. 1, 2 & 3**

With respect to academic staff, no new resources are needed as we are currently in the process of hiring 3 new faculty members and current faculty members have been supervising PhD students through the Interdepartmental PhD program.

With respect to support staff and technical services, due to recent changes in the administrative structure of the Faculty of Human Ecology and the Department of Human Nutritional Sciences, no new personnel are required for the introduction of this program

Addendum (Feb.4, 2010): Since the original submission of the proposal, 4 new faculty have been hired (House, Eck, Slater, and Myrie).

**II. Costs associated with Physical Resources implications under the above headings
B. 1, 2 & 3**

We anticipate that more space and research infrastructure will be required as the program grows in the medium to long term.

III. Costs associated with research not covered above.

For the categories above indicate which costs are to be covered by internal (to unit) reallocation of existing budget(s) and which costs represent need for new funds.

No new funds are required for the introduction and short to medium-term delivery of the program (5 years). As the program grows, additional physical and human resources will be required.

2. Student Support

Indicate how and to what extent support of students is anticipated and indicate what commitment is made for student recruitment.

The Department will strive to ensure funding at the level of at least \$16,000 per year. This support will come from fellowships/scholarships or other types of support and if necessary will be supplemented by advisor grant funds to reach the minimum support level. Advisors will be encouraged to take advantage of the matching 'top-up' program of the Faculty of Graduate studies. Students will be strongly encouraged to apply for fellowships/scholarships through federal and provincial agencies. We anticipate that we will attract high quality students to this program who will be able to secure this type of funding. Many potential Ph.D. research advisors will possess research funds with which

to pay student stipends. International students may come on their own government support. The Faculty of Human Ecology is undertaking a fundraising effort to improve graduate student support.

3. Identification of new financial resources

Indicate any new sources of funds that are anticipated for supporting the program.

The Faculty of Human Ecology is undertaking a fundraising effort to improve graduate student support.

4. Balance sheet

Provide a financial statement summarizing the expected costs and the revenue anticipated. Present a financial plan that includes all costs from start-up to achievement of a "steady-state" operation of the program. Include such items as capital start-up needs and phasing in of FTE growth.

Startup costs are expected to be minimal, as this program will replace the Interdepartmental PhD in Foods and Nutritional Sciences.

	Year 1 (2009-10)	Year 2 (2010-11)	Year 3 (2011-12)	Year 4 (2012-13)
COSTS	0	0	0	0
REVENUE				
Tuition fees to be paid to the University				

E. Supporting documents

Provide letters of support from departments/faculties/units and outside groups/agencies/organizations as appropriate.

Letters of support included are from:

Department of Animal Sciences

Richardson Centre for Functional Foods and Nutraceuticals

Canadian Centre for Agri-Food Research in Health and Medicine

Food Development Centre

PhD Program in Applied Health Sciences

N/A

Appendix

Minimum course requirements in Human Nutrition programs in Canadian Universities compared with the proposed number in the Department of Human Nutritional Sciences at The University of Manitoba

Institution	Credit hours required for MSc	Credit hours required for PhD	Total credit hours required
University of Toronto	6	12	18
University of Guelph	9	0*	9
McGill University	14	2 ^{&}	16
University of Alberta	9	9	18
University of Saskatchewan	12	6	18
University of British Columbia	18	- [#]	18
University of Manitoba	12	6 (proposed)	18

Further information from web sites:

* No set number of courses: "Coursework would be established through discussion with the student's advisory committee"

& No set number of course above the 2 credit hours: "normally comprises a smaller portion than for the MSc degree"

"Students in the Ph.D. program are not required to take a fixed number of courses, but appropriate course work will be selected in consultation with the candidate's committee"

Human Nutritional Sciences, University of Manitoba

Proposed PhD Program

Report of Site Review Nov 25-26, 2008

Dr. Linda McCargar, University of Alberta
Dr. Harvey Anderson, University of Toronto

Outline

Part A – Overview

1. Demand for the program
2. Environment for the program
3. Excellence of Faculty

Part B – Administration and Resources

1. Curriculum
2. Space
3. Administration
4. Student Stipends

Part C – Summary

Part A – Overview

The Department of Human Nutritional Sciences (HNS) proposal for a PhD program is timely, will fulfill a demand for graduates in the discipline and will be centered in a rich research and academic environment that can be harnessed to provide excellence in advanced graduate education. For these reasons, the Department has a responsibility as well as the potential to provide a leadership PhD program in human nutrition sciences that will bring national and international recognition. The University of Manitoba has great potential as one of the stronger programs among the Western Provinces to be nationally competitive in attracting national and international students to the region to support and conduct research relevant to the region.

The review team agreed that the viability of the program is not in question but felt that the proposal was too conservative in predicting enrolment, as discussed in the following sections.

A.1: Demand for the Program:

The Department has not had an independent PhD program but has participated in an Interdepartmental PhD that also included the Departments of Animal Science, Plant Science and Food Science. However, this coalition has become unnecessary as all of the Departments have matured in research strength. Animal Science and Plant Science have had their own independent PhD program for the past ten years and Food Science has made a submission for its own independent program that is in progress through senior administrative committees at the University. Thus, the Department of Nutritional Sciences proposal is timely and a logical step forward toward creating leadership training and research in human nutritional sciences.

The Department is uniquely positioned to take advantage of the increasing recognition of the role of the agri-food system and nutrition research in contributing to human health and prevention of chronic disease. The rapid increase in prevalence of obesity, the metabolic syndrome and health care costs have brought focus and resources to food and nutrition research. Resources for human nutrition research are expanding and the need for experimental studies of the effect of food and food components on the physiology of humans is receiving much attention. The Canadian Institutes of Health Research, Natural Sciences and Engineering Research Council, Canadian Heart and Stroke Foundation, Canadian Diabetes Association, Genome Canada and Agri-Food Canada are examples of research funding entities that are responding to the expanding interest in and resources for human nutrition research.

With the appointment of Dr. Jim House as Chair of the Department, the administrative leadership has permanence for the foreseeable future. During the past number of years the creation of long-term initiatives for the Department was limited due to the considerable

period of time with Acting Chairs within the department. Dr. House brings strength in administrative skills and has national and international recognition for his research. He has also been generous with his time in supporting the Canadian Society for Nutritional Sciences.

A.2: Environment for the Program

The Department of Human Nutritional Sciences is ideally situated in an environment that has significant resources and facilities of international standard directed to research in nutritional sciences. The proposed enrolment is predicted based on the strength of new and future plans for appointments and research strengths within the Department. It is clear that these strengths are sufficient for a viable program and represent a core of tenure stream faculty that makes it comparable to its peer departments at other universities including the Universities of Toronto, Alberta, and Guelph. However, the potential for enrichment of research and student supervision through interdisciplinary collaboration and exploitation of allied research institutions appeared to be relatively unexplored and was not embraced in the proposal. However this emerged as a major point of discussion during the site visit.

Through the Manitoba Health and the Winnipeg Regional Health Authority, the provincial government has endorsed a strategy for the promotion of physical and economic health of Manitobans by placing increased research emphasis on the understanding of the role of agricultural commodities in the prevention of chronic diseases. The units that have many common interests and have internationally recognized human nutrition research programs include the Richardson Center for Functional Foods and Nutraceuticals and the Canadian Center for Agri-food research in Health and Medicine at St Boniface Hospital. In addition, increased collaboration could be explored with the Food Development Center, Portage la Prairie, Canadian International Grains Institute, Agriculture and Agri-Food Center (Cereal Research Center) and the Manitoba Institutes of Child Health. Finally the potential for expanding in the areas of clinical medicine and public health research did not appear to be addressed.

Because the Department is the primary holder of the academic framework for capturing and focusing resources for graduate degree training in human nutritional sciences, it holds the keys to opening doors for increased collaboration among the various research centers. The challenge for the Chair of the Department will be to develop a strategic plan for the research programs impacting on the new PhD program and for making relevant appointments expanding the potential for supervision.

A.3 Excellence of the Faculty

The current faculty of 15 (some with joint-appointments) have excellent qualifications for the support of the PhD program. The CVs presented show that many of the faculty members have achieved international recognition, received national and international awards and all appear to have some external sources of support for research. Most of the Department's core faculty members have been appointed in the past ten years, have

strong research programs based on competitive funding and have experience in graduate student supervision. In addition, faculty from the Departments of Food and Animal Science and scientists in the many cognate research centers are highly qualified to participate on student committees and through adjunct or other mechanisms of appointments can serve as supervisors of PhD students. Thus, both breadth and depth of training is available to graduate students not only from within the core Faculty appointments but also due to the richness of the environment. In addition, two new appointments are anticipated.

Part B – Administration and Resources

B.1 Curriculum

The proposed course requirements were specified in the report based on students who would be applying with 1) a MSc in HNS from the University of Manitoba, or 2) a MSc from another discipline, or 3) a MSc from another university. There was no scenario described for someone who may be applying with a BSc; so this may not be an option, as it is for some universities. The course requirements were specified as a total of 18 credit hours, with 15 from nutrition courses (as a combined requirement of both a MSc and the PhD). An example from a U of M student would be 12 credits for the masters program and 6 additional credits for the PhD. The courses available include a quite extensive list of nutrition and food science courses.

It was stated that a seminar course would be required by all students; however it was unclear if this was included in, or extra to, the specified credits. There also did not appear to be a specified requirement for a statistical analysis course. One issue that was mentioned by both faculty and graduate students was the length of time it was taking students to complete the current MSc and Inter-departmental PhD programs. It was suggested by some, that this may be due in part to the course requirements and their sequencing, with some courses offered every second year. Also, some courses are only 1.5 credits and although they are only offered for half of the semester, many students believed that the coursework required was still closer to that of a 3.0 credit course.

Overall, the review team felt that the course requirements were too "prescriptive" and relied too heavily on courses taught by the Department's faculty. At the PhD level course programs should be more individualized based on the student's research and background. Furthermore, students need to be encouraged to take courses outside the Department in order to have the knowledge base for perusing research questions of the future. The student and their supervisory committee should have the flexibility to consider the student's needs early in the program and re-evaluate as needed. There were also a number of comments about the need for clarity regarding the new program. Very clear and accessible (website) guidelines are required for admissions, course and research requirements, committee requirements, candidacy and defense examinations, and estimated timelines for milestones in the program.

Recommendation:

- *Re-evaluate the course requirement and reduce the number of "half courses" (1.5 credits) and courses taught by the Department.*
- *Individualize course work based on the student's background and program of research.*
- *Courses should include a relevant statistical analysis course and a seminar course.*

B.2 Space

It is clear that HNS graduate students are located at various different campus sites, separated by a considerable distance. Although this is a reality of most universities, it is desirable to make every effort to enhance collegiality, social interaction and joint initiatives between PhD students in the same department. This can be done by graduate student associations, weekly seminars, journal clubs etc. In addition it is important that each location has a critical mass of HNS students to reduce isolation and maintain identity with the Department.

In addition, provision for graduate student space is very important for PhD students due to the duration of the program. All PhD students should have a workstation that is "their own" where personal items can be locked up and they have access to computers. These should be located by the wet lab or dry lab that they work in, or near their lab group/supervisor for efficient interactions. There was some discussion as to whether PhD students doing community-based or practice-based research should also have an on-campus workstation. We suggest that they should, to encourage on-campus meetings and greater interaction with the other PhD students.

The Richardson Centre has excellent graduate student space; however it was noted that it is almost full. Similarly, the Human Ecology graduate student space was full, and more space is required in the Duff Roblin Building to accommodate graduate students.

Space management in the Faculty for the HNS research programs and support of the graduate program needs to be addressed beyond the personal work space. It was suggested that there is new lab and adjacent space scheduled for the 4th floor of the Duff Roblin Building in the near future for the HNS department. However, it was not clear whether the plan for the design of the new space has taken into consideration the environment and the role and composition of research facilities within the HNS. Graduate students tend to migrate to work with faculty and in facilities that they feel represent current research priorities in the discipline.

Thus, if the PhD program is to expand over the next five years, attention to creating suitable graduate student space is required. As well, office space for an Administrative person to oversee the HNS Graduate Programs will be needed.

Recommendation:

- *The completion of the proposed additional lab and graduate space in the Duff Roblin building should have a high priority.*
- *All PhD students in the HNS program should have their own workstation.*
- *Office space for an Administrative Staff person for the program should be provided.*

B.3 Administration

The proposed administrative structure is that both the MSc and PhD programs will be the responsibility of the Chair of HNS, and it will be administered by the Graduate Program Committee Chair with the assistance of the graduate program committee. The proposed committee structure is typical of that of other universities. However the responsibilities of the Graduate Chair and that of senior members of the graduate program should be made clear so that the burden of time is distributed as the program expands.

A 0.5 FTE position was stated to be approved to support the MSc graduate program. However the review team suggests that this should be expanded to 1.0 FTE to manage all the graduate requirements in HNS and to support the work of the Graduate Program Committee Chair. Because the previous Inter-departmental PhD program was administered through the department of Food Science, these responsibilities will now be taken over by HNS. The duties of a staff member involve responding to program inquiries, admissions, data tracking, monitoring student progress, facilitating university protocol for candidacy and thesis examinations, recruitment, updating website information, and general management of the programs. Time spent on these duties should not be a priority for the Department's investment in a faculty member.

It was also noted that there is one department technical support person who provides teaching, technical and IT support regarding much of the HNS lab equipment and computers. Thus, if the PhD program is to expand over the next five years, additional technical support will be required. However, the requirement for technical support from base budget versus that from pooling resources from grants and the success of individual research programs needs to be addressed.

Recommendation:

- *An additional 0.5 FTE administrative position for the PhD program; which would result in 1.0 FTE for the combined MSc/PhD programs.*
- *Develop a plan for maintenance of core facilities and support of the technical requirements of the expanding research programs of the department.*
- *Develop a strategic plan for space utilization and research programs in the HNS.*

B.4 Student Stipends

Mandatory support of PhD students was not addressed in the proposal, but when discussed at the time of the review it was mentioned that the minimum stipend levels specified by the Faculty of Graduate Studies at the University of Manitoba is \$12,000 per year for MSc students and \$16,000 per year for PhD students. It appeared that this requirement was not uniformly enforced within the department of HNS. Some students receive stipends from grant funding and some students had scholarships, but many students were receiving amounts well below the specified minimums; and in some cases this was primarily through TA-ships. This inequity was a concern of the graduate students.

The lack of adequate support has serious constraints on the goal of developing a nationally and internationally competitive program. PhD students consider their options carefully when choosing a University at which to train. Although financial considerations are just one piece in the decision making process, it is suggested that universities must be competitive to attract strong students. Although an extensive comparison was not available the reviewers are familiar with two similar PhD programs in Nutrition where minimum PhD stipends are \$21,000 per year (University of Alberta effective Sept 2009) and \$25,000 per year (University of Toronto).

Although this may mean fewer students will be able to be accepted by a faculty member, guaranteed stipends will enhance the morale of those students who are in the program as it standardizes the "conditions of employment"; and in fact they may view it more as a full time position. This should speed up the time to completion, as it is less likely that students will require part-time jobs. It will also increase the competitiveness of the program. Students should be encouraged to apply for scholarships, and if successful be rewarded by "top-up" from the supervisor's grant, as is the convention at other institutions.

Recommendation:

- *Guaranteed stipends of at least \$16,000 per year for all PhD students in the HNS program.*
- *A plan to make the stipends competitive with other universities should be developed*

Part C – Summary

In conclusion, the review team felt that the department of HNS has the motivation, the faculty excellence and the environment to offer their own PhD program. This will require support from various sources as outlined above. Enhancement of collaboration with the many existing related research units will offer greater opportunities for students. In addition, the logistics of the curriculum, space planning, administration of the program and student support will require ongoing development as enrollment and participation of scientists in cognate units increases.

Response to external review report on the proposed PhD program in Human Nutritional Sciences

Responses to general comments in the text of the report

The external reviewers begin their report by stating that "the Department has a responsibility as well as the potential to provide the leadership for PhD program in human nutrition sciences that will bring national and international recognition. The University of Manitoba has great potential as one of the stronger programs among the Western Provinces to be nationally competitive in attracting national and international students to the region to support and conduct research relevant to the region." They conclude by saying "the review team felt that the department of HNS has the motivation, the faculty excellence and the environment to offer their own PhD program. This will require support from various sources as outlined above."

The report is extremely supportive of the proposal and even suggests that the need and potential of the program have been undersold. For example, on page 2: "The review team agreed that the viability of the program is not in question but felt that the proposal was too conservative in predicting enrolment". The proposal has therefore been revised on page 3, where we have indicated the potential enrolment in 5 years to be between 25-30 students.

Part A of the report addresses the need, environment and excellence of the faculty for a PhD program. While there are no specific recommendations in this section, the text does indicate that the potential for greater interdisciplinary collaboration should be exploited, as should expansion into the areas of clinical medicine and public health. While the proposal is based on the current strengths and capabilities of the Department, we agree that these are areas which need to be pursued by the Department. The proposal does currently reflect the Department's current collaborative efforts with researchers at St. Boniface Research Centre (CCARM) and the Manitoba Institute of Child Health (MICH), and these linkages will be evaluated and strengthened with the proposed PhD program. Indeed, a strategic planning process is being initiated by the new leadership in the Department and these are areas that will be seriously explored.

The text of Part B raises a few questions that are not included in the recommendations that follow each section in Part B. The report pointed out (page 4) that there is no scenario described for entry into the program for someone who may be applying with a BSc. This is indeed the intent; as such a student would be required to enroll initially into the MSc transfer upon demonstration of potential to carry out a PhD, as detailed in the transfer procedures on page 7 of the report. Also on page 4, the report questioned whether the seminar course would be included in, or be extra to, the specified credits. As stated on page 8 of the proposal, three of the six credit hours required will consist of the seminar course, so this is included in the specified credits.

Responses to specific recommendations

- *Re-evaluate the course requirement and reduce the number of "half courses" (1.5 credits) and courses taught by the Department.*

The review team felt that the course requirements were too prescriptive and relied too heavily on courses taught by the Department's faculty. In fact, six of the 1.5 credit hour courses currently being taught are being team taught with the Department of Animal Science. As part of our strategic planning process, the graduate curriculum and the emphasis on Department courses will be reviewed and this will occur in conjunction with the Department of Animal Science, since many of the courses are co-listed. These comments, however, appear to apply more to the current MSc program, since the proposed number of credit hours in the proposed PhD program is six, of which three are from the seminar course and the other three are not restricted to Department courses.

- *Individualize course work based on the student's background and program of research.*

Again, this recommendation appears to apply more to the MSc program, as the proposed PhD program does not dictate the course to be taken in addition to the seminar course. Courses taken by the student would be decided by the committee in consultation with the student and the advisor, and would be based on the student's background and program of research.

- *Courses should include a relevant statistical analysis course and a seminar course.*

Statistics is already usually taken at the MSc level and so was not prescribed in the PhD program proposal. The student's advisory committee's role in this regard would be to require further courses in statistics if it deemed the student's background to be insufficient for the type of research in the student's proposed dissertation. A seminar course is required.

- *The completion of the proposed additional lab and graduate space in the Duff Roblin building should have a high priority.*

We agree that this is a priority. This is being addressed by The University of Manitoba's 'Domino' plan, which will ultimately result in increased space being allocated in the Duff Roblin Building to the Department.

- *All PhD students in the HNS program should have their own workstation.*

This is a priority which will be facilitated by the implementation of the 'Domino' plan.

- *Office space for an Administrative Staff person for the program should be provided.*

The 'Domino' plan also will enable this recommendation to be carried out.

- *An additional 0.5 FTE administrative position for the PhD program; which would result in 1.0 FTE for the combined MSc/PhD programs.*

We agree with this recommendation and have revised the proposal on pages 17, 19 & 21-22 to reflect this change. The University of Manitoba central administration has recently allocated a half time position to the Faculty of Human Ecology for this purpose. Since the Department has approximately 2/3 of the graduate students in the Faculty, the person in this position will spend an equivalent of 1/3 time for the Department. Therefore, to enable this recommendation, a 2/3 position is included in the proposal.

- *Develop a plan for maintenance of core facilities and support of the technical requirements of the expanding research programs of the department.*

The addition of the training personnel in the proposal will enable the development and implementation of a plan for maintenance and technical support.

- *Develop a strategic plan for space utilization and research programs in the HNS.*

The University of Manitoba 'Domino' plan and the Departmental strategic planning process will address this issue.

- *Guaranteed stipends of at least \$16,000 per year for all PhD students in the HNS program.*

We have revised the proposal on page 21 to reflect this recommendation.

- *A plan to make the stipends competitive with other universities should be developed.*

The University of Manitoba Graduate Fellowship will be used as a benchmark for our continuing evaluation of stipends for graduate students.

Other revisions to the proposal

Since the original submission of this proposal, several changes in staff have occurred. Dr. Candice Rideout has left The University of Manitoba—the administration has approved a replacement for this position and a search is currently under way. Dr. James House has been appointed as Head of the Department as of January 1, 2009. These changes are made on page 15.

In sum, the report supports the need and importance of a PhD program in the Department of Human Nutritional Sciences both at the university and national level. Following through on the recommendations found in the external report will make the program that much stronger.

Report of the Senate Planning and Priorities Committee on the proposal to introduce a new Ph.D. Program in Human Nutritional Sciences in the Department of Human Nutritional Sciences in the Faculty of Human Ecology

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found on the website at:
http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/508.htm, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.
2. The Programs and Planning Committee of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing new graduate programs and making recommendations to FGS Council.
3. The FGS Council recommends that Senate approve a new Ph.D. Program in Human and Nutritional Sciences in the Department of Human Nutritional Sciences in the Faculty of Human Ecology

Observations

1. The committee noted that this proposed Ph.D. program has been developed to replace the Human Nutritional Science aspect of the current interdisciplinary Ph.D. in Food and Nutritional Sciences. This program will enable the Department of Human Nutritional Sciences to effectively address the evolving needs of students in this field of study. The Department of Human Nutritional Science has built its capacity to do the doctoral training in this evolving area of study. In addition, the labour market has grown and now requires individual researchers, teachers and practitioners with unique training in this field of study. A recent periodic graduate program review of the Masters programs recommended the development of a Ph.D. Program in Human Nutritional Science. It was further noted that the graduate program reviewers pointed out that there would be student recruitment advantages to having a set of programs from the Bachelor to the Ph.D. level which would result in better and more applicants for the Department. The committee noted that the Departments of Human Nutritional Sciences and Food Science pursue two different kinds of research lines and are two different kinds of enterprises.
2. In addition, the committee noted that no additional resources will be required for academic staff to implement and deliver this proposed program. The Faculty's existing human resources currently allocated to the delivery of the Interdepartmental Ph.D. in Food and Nutritional Sciences will be used to deliver the new Ph.D. Program.
3. The committee noted that the proposal documentation provided strong letters of support for the development of this new Ph.D. Program. The endorsement included letters from the Richardson Centre for Functional Foods and Nutraceuticals, the Faculty of Agricultural and Food Sciences at University of Manitoba, the Canadian Centre for Food Research in Health and Medicine, the Canadian Food Development Centre, and the Health, Leisure and Human Performance Research Institute.

4. The committee noted that the proposal provided documentation which indicated that the University of Manitoba Libraries staff have reviewed the library resource needs for the proposed program and has indicated the Dafoe Library would require an additional \$3500 annually to meet the needs to enhance its collection of journals and monographs collections for the proposed program.
5. The Faculty has indicated that, while the current student instructional space, classroom, laboratory and study space is adequate, new space will be required as the program grows.

Recommendation

The SPPC recommends THAT:

Senate approve and recommend to the Board of Governors that it approve a Ph.D. Program in Human and Nutritional Sciences in the Department of Human Nutritional Sciences in the Faculty of Human Ecology. The Senate Committee on Planning and Priorities recommends that the Vice-President (Academic) not implement the program until satisfied that there would be sufficient existing space, funding, and library resources to support the ongoing operation of the program.

Respectfully submitted,

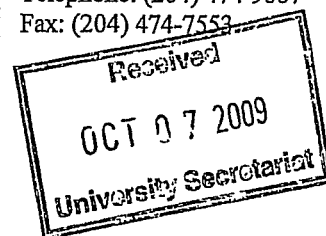
James Blatz, Chair
Senate Planning and Priorities Committee



UNIVERSITY
OF MANITOBA

Office of the Dean
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DATE: October 6, 2009

TO: Jeff LeClerc, Office of the Univ. Secretary, 312 Admin

FROM: Dr. John (Jay) Doering

SUBJECT: New Graduate Program:

The Faculty Council of Graduate Studies met on Thursday, October 1, 2009 and endorsed the proposed new M.Sc. Dentistry in Pediatric Dentistry.

We are now forwarding the proposal to Senate for approval.

1. The Faculty of Dentistry – ^{M.Dent} ~~M.Sc.~~ of Dentistry in Pediatric Dentistry. Please review:

- Program Proposal (Attach. A)
- Reviewers' Report (Attach. B)
- Departmental Response (Attach. C)

/py

Report of the Faculty Council of Graduate Studies on New Programs

Preamble:

1. The Faculty of Graduate Studies has responsibility for all matters relating to the submission of graduate course, curriculum and program changes, and new graduate programs. Recommendations for new programs or changes are submitted by the Faculty Council of Graduate Studies for the approval of Senate.
2. The Faculty Council of Graduate Studies met on the above date to consider a proposal from the Faculty of Dentistry.

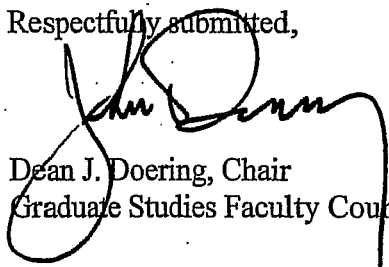
Observations:

1. The Faculty of Dentistry proposes a *Master of Dentistry* in Pediatric Dentistry. Please review the:
 - Program Proposal (Attach. A)
 - External Reviewers' Report (Attach. B)
 - Departmental Response (Attach. C)

Recommendations:

The Faculty Council of Graduate Studies endorses the proposed *Master of Dentistry* in Pediatric Dentistry and recommends that it be forwarded to Senate for approval.

Respectfully submitted,



Dean J. Doering, Chair
Graduate Studies Faculty Council

/py.

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

MASTER OF DENTISTRY -PEDIATRIC DENTISTRY

**Faculty of Dentistry
The University of Manitoba**

August, 2009

EXECUTIVE SUMMARY

This document proposes the establishment of a Master of Dentistry (M. Dent.) Program in Pediatric Dentistry within the Department of Preventive Dental Science at the Faculty of Dentistry, University of Manitoba. The purpose of this M.DENT. Program is to provide an opportunity for dentists to pursue higher education and research in the field of Pediatric Dentistry with an emphasis on prevention and public health in underserved and disadvantaged communities (Aboriginal, rural, and urban poor). This specialty program will build on the firm foundation of knowledge and skills developed during undergraduate studies in dentistry. It will also take advantage of the superior clinical training experiences and facilities that are part of the existing C3 child internship program at Children's Hospital funded through the Winnipeg Regional Health Authority as well as existing University strengths in Aboriginal-focused studies (collaborations with the Faculties of Arts, Extended Education, Human Ecology, Medicine, and Social Work). The main purpose of an advanced education program in Pediatric Dentistry is to prepare a specialist who is proficient in providing both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs. This individual will be trained to provide services in institutional, private, or public health settings and to work in coordination with members of other health care and social disciplines. Additionally, graduates will be uniquely positioned to design effective preventive and public health programs in underserved and disadvantaged communities throughout Manitoba, Canada, and the world. The program will encourage the development of a critical and inquiring attitude that is necessary for the advancement of practice, research, and teaching in Pediatric Dentistry. The graduate program will be 36 months in duration and will include extended immersion experiences in underserved areas.

This proposal presents an historical perspective as well as highlighting the development of Pediatric Dentistry in Manitoba and Canada and describes the need and expressed demand for opportunities for advanced study in this field. It includes a description of the proposed program and the resources applied to, and required for, the program. Supplementary material that supports the establishment of a graduate program in Pediatric Dentistry (letters of support and feasibility) is also included. It is expected that the new program will commence by July 2010, pending conversion of the current C3 child internship program and obtaining preliminary Canadian Dental Association accreditation status.

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A. INTRODUCTION

i. Rationale

New programs should offer advantages for residents, the institution, and the community they serve. Additionally, new programs should be innovative and responsive to the dynamic environments in which they operate. The proposed specialty program in Pediatric Dentistry was developed to address the unique needs and cultural characteristics of underserved and disadvantaged communities (Aboriginal, rural, and the urban poor). Exposure to and training in Aboriginal issues and cultures will be a major strength of the program. The program seeks to recruit a pool of international applicants interested in public health and preventive approaches in Aboriginal and other underserved and disadvantaged communities and will offer extensive cultural education, practical immersion experiences, and a rigorous research program in public health/prevention. The program is to commence July 2010 and will prepare future graduates with emphasis not only for the clinical practice of Pediatric Dentistry in urban centers but rather the research and scholarship of public health and unique preventive approaches tailored to Aboriginal and other underserved and disadvantaged communities. The intent is that these graduates will be thought leaders and faculty at academic health centres and/or practicing professionals in Aboriginal communities and other underserved and disadvantaged communities in Manitoba, Canada, and around the world. Thus, the program is completely unique and offers significant potential for improvement of the quality of life in Aboriginal and other underserved and disadvantaged communities.

ii. Objectives

The goal of this proposal is to establish a graduate program in Pediatric Dentistry at the University of Manitoba. The three-year program will prepare residents to become proficient in providing both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs. It will also provide extensive education in Aboriginal cultural issues as well as issues surrounding other underserved and disadvantaged communities. The program will award the M. DENT. degree providing an emphasis on research and scholarship related to innovations in prevention and population health. This makes the program unique in North America (see teaching curriculum).

The objectives of the M. DENT. Program in Pediatric Dentistry are as follows:

1. To establish only the second advanced educational specialty program in Pediatric Dentistry in English-speaking Canada that will train prevention and public health-oriented pediatric dentists for Aboriginal and other underserved and disadvantaged communities in Manitoba, Canada, North America, and the world.
2. To integrate and enrich current teaching programs, and establish new teaching programs, for the vulnerable child portion of the population in Aboriginal and other underserved and disadvantaged communities.

3. To improve dental health and reduce the prevalence of dental diseases in the child populations of northern communities in the province of Manitoba more than doubling the existing provision of services to underserved children and adolescents in Manitoba.
4. To strengthen the Faculty of Dentistry and the University of Manitoba by having a program that will become unique in Canada and worldwide through its outreach programs and emphasis on new approaches to prevention in high-risk communities.
5. To foster and stimulate collaborative research interests in Pediatric and other aspects of Public Health Dentistry, which collectively provide the knowledge and expertise to improve the Dental Health of the communities we serve.
6. To facilitate integration and collaboration with other relevant clinical programs in the Faculty of Dentistry, University of Manitoba, and Health Sciences Centre.

iii. Current and Future Needs in Manitoba and Canada

Historical Perspective:

In 1875, a Dental Cosmos article by E.H. Raymond (1) encouraged dentists to treat children and suggested ways to minimize management problems. Ever since, the genesis of dentistry for children has encompassed problems related to tooth decay, complications of tooth decay, and the inflammation and pain associated with these complications. From its extraction-oriented beginnings, Pediatric Dentistry transitioned to an interception era that also featured heavy emphasis on diagnostic procedures. Restorative dentistry was the main theme of this era and to some extent this era has not passed. Tooth decay still exists, although its incidence is significantly less in certain areas (2). However, Aboriginal and rural communities as well as underserved and disadvantaged populations, are still experiencing high tooth decay rates (3).

1. Raymond, E.H. Children as patients. Dent Cosmos 17: 54-56, 1875.

2. Cooney, P.V., Hassard, T.H., Malazdrewicz, V.K. Comparison of the dental health status of six-year-old children in Manitoba. J Can Dent Assoc. 59: 544-548, 1993.

3. Schroth R.J., Moor P., Brothwell D.J. Prevalence of early childhood caries in 4 Manitoba communities. J Can Dent Assoc 71:567-72, 2005.

With improved access to provision of dental care, an increasing number of younger children are receiving treatment. Since children relate differently to the adult world, strategies needed to be developed to help children cope with their apprehension concerning dental procedures. Over time, management of a child patient has become the art of Pediatric Dentistry, making it distinct from all other clinical dental disciplines. Proper management of a child patient permits dental treatment to be performed in an effective and efficient manner and ensures the development of a positive dental attitude in the child patient (4). Building a relationship with the child and their parents as well as increasing the awareness for the lifetime care of the child's teeth are the most important tasks of Pediatric Dentistry today. Another important change in current Pediatric Dentistry is an increasing emphasis on prevention and public health. This emphasis, when paired with better understanding about the role of nutrition, home care, and motivating parents to take care of their children's teeth, has brought about a large number of cavity-free children. However, because of a lack of cultural understanding and appropriate preventive models, this success has not been realized in Aboriginal and other underserved and disadvantaged populations. An important task ahead for the profession and for the proposed Pediatric Dentistry program is to ensure that all children, including the underserved and disadvantaged, will experience the benefits of a cavity-free and pain-free childhood.

Many undergraduate Pediatric Dentistry programs nationwide have clearly identified the need for a graduate program in this field. A number of other Canadian universities offer continuing education courses, workshops, seminars and other modules. However, no formal graduate degrees (other than the Universities of Toronto and Montreal) are currently awarded. By adopting this program, the University of Manitoba would join the ranks of the top Canadian, American, European, and other universities currently offering graduate education in the specialty of Pediatric Dentistry.

Demographic Trends of Dental Diseases:

Tooth decay is still the single most common disease of childhood. Studies indicate that 60% of children have decayed primary teeth and 85% of teenagers have experienced at least one cavity in their permanent dentition (5). Tooth decay disproportionately affects a majority of children from low-income families. This small group, 20-25% of the population, experiences more than 80% of all dental cavities (6). Poverty presents numerous obstacles to dental care. Access to care and the availability of providers present an additional barrier, further expanding the disproportionate disease burden of Canada's poor.

4. Cross, H., Lekic, P.C. The Handbook of Pediatric Dentistry. The University of Manitoba p. 1-10, 2008.

5. Gilcrest, J., Collier, D., Wade, G. Dental caries and sealant prevalence in schoolchildren in Tennessee. J Public Health Dent 52: 69-74, 1992.

6. Aida J, Ando Y, Oosaka M, Niimi K, Morita M. Contributions of social context to inequality in dental caries: a multilevel analysis of Japanese 3-year-old children. Community Dent Oral Epidemiol 36:149-56, 2008.

This disease distribution pattern is even more evident in a rampant form of early childhood caries occurring in children less than 2 years old. Nationally, the incidence of early childhood caries is 5%. However, some groups are known to experience disproportionate amounts of disease. Examination of aboriginal children demonstrated the prevalence of early childhood caries at over 50% (7). Treatment of these children is difficult and costly, requiring a hospital setting and management under general anesthesia. More than anything, intervention strategies are needed that will identify problems in their earliest stages and educate families on the importance of disease prevention and oral health promotion. Pediatric dentists comprise the body of the work force that provides preventive and early treatment care for this and other forms of childhood caries. However, the existence of only one Pediatric Dentistry graduate program in English-speaking Canada creates for Manitoba, and the rest of Canada, great difficulties in recruiting an adequate number of specialists to work with the most vulnerable population groups.

Contribution of the Program to the Well-being of Children from Winnipeg and Manitoba:

The field of dentistry for children is important considering the age and the number of children that experience dental problems as well as the socio-demographic milieu of the children affected (see studies above). According to data from the Winnipeg Regional Health Authority (2000-2001), almost 27% of Winnipeg's children (age 4-12) have over 98% of overall tooth decay rates for that age group. Strikingly, preschool children from this age group have on average more than 5 decayed, extracted or filled teeth. Unfortunately, the majority of these children are from working poor families or are aboriginal children in whom current preventive measures and approaches have proven to be inadequate. A direct consequence of this is an increase in the number of children waiting for treatment under general anesthesia. In Manitoba alone, over 1,500 children are presently on the waiting list for this type of treatment. These children are less than 4 years of age and the waiting time for the treatment ranges between 3-12 months.

The large number of children with dental problems and the vast numbers of dollars spent on rehabilitation and support services make this an important area for clinical work, teaching and research. Educating and training increased numbers of pediatric specialists, emphasizing prevention and public health will provide the work force required to bring the existing caries rates under control. It is therefore expected that graduates from this program will make an important contribution to the improvement of oral health for the children of Manitoba, Canada, and around the world.

Employment Forecasts:

Graduates of this program will be able to work in three major areas: academic health centres, public health programs, and private practice. The work prospects and employment situations for graduates in Pediatric Dentistry are very encouraging.

7. Psoter WJ, Pendrys DG, Morse DE, Zhang H, Mayne ST. Associations of ethnicity/race and socioeconomic status with early childhood caries patterns. Public Health Dent 66:23-9, 2006.

This employment outlook is the result of an insufficient number of pediatric dentists. For example, in the province of Manitoba (~300,000 children age 0-18) there is a significant shortage of pediatric dentists (14 in total), which creates an unfavorable ratio of 1 pediatric dentist per 22,000 children. Additionally, all fourteen specialists are located in Winnipeg creating a void for the rest of the province. Recruitment of pediatric dentists is a very difficult, if not an impossible task due to the vast shortage of pediatric dentists throughout the country. This is clearly seen in Saskatchewan where there is only one pediatric dentist in the entire province.

The work of pediatric dentists in public health includes the provision of dental care, research, program planning, and senior administration, as well as work in the fields of education and health management. As the proposed program in Pediatric Dentistry will emphasize a strong outreach component (see teaching curriculum), it will prepare graduates to work in rural, northern and other underserved or disadvantaged communities. This orientation toward community service and practical immersion experiences will provide our students with public health perspectives facilitating and encouraging their involvement in community service programs. Only an increased number of specialists trained and involved in preventive and early treatment programs will make the difference for all children; particularly those currently underserved.

iv. Strengths of the Program

A graduate program in Pediatric Dentistry will further expand the scope of the University of Manitoba's involvement in this aspect of child health, which has a broad professional and academic base locally, nationally, and internationally. At present, the undergraduate Pediatric Dentistry program at the University of Manitoba has a strong community commitment serving the children of Winnipeg, rural Manitoba, the urban poor, and Aboriginal communities (8). We believe that this graduate program will further strengthen our outreach commitments (i.e., Norway House, Sandy Bay, Churchill, and Health Action Centre), thus improving learning experiences for our students and providing an important role for the University of Manitoba within the community.

The program will take advantage of the internationally recognized expertise within the Faculty of Dentistry in Aboriginal dental care issues (Dr. Robert Schroth), rural and underserved dental care (Dr. Olva Odum), and outreach and community service models in underserved and disadvantaged communities (Dr. Charles Lekic and the Variety Children's Dental outreach program as well as Dr. Doug Brothwell and the Centre for Community Oral Health). Dr. Schroth has been active in First Nations pediatric dental issues as a practitioner and researcher for several years having received federal funding for his work and has organized the annual Aboriginal national dental workshop within this field for the past two years.

8. Lekic, P.C., Sanche, N., Odum, O., deVries, J., Wiltshire, W. General Dentists' provision of care to child patients before and after changes to the undergraduate Pediatric Dentistry program. J Dent Educ 69: 371-377, 2005.

Dr. Odium has been active in rural and underserved dental care within Canada for over 40 years and has helped to establish many of the public health and community service models within the Centre for Community Oral Health. Dr. Charles Lekic has been instrumental in providing care to Winnipeg's inner city school children and Dr. Brothwell continues to expand the Centre for Community Oral and now manages 25 separate clinics and outreach dental services throughout Manitoba, Ontario, and Saskatchewan including many services within Aboriginal communities.

The proposed program will merge existing strengths in the Faculty of Dentistry with related areas of cultural and Aboriginal expertise throughout other parts of the University of Manitoba to provide a unique understanding of underserved and disadvantaged cultures (see teaching curriculum). It is important to note that the Aboriginal-focused programs at the University with coursework in Community Health Sciences, Extended Education, Family Social Sciences, Native Studies, and Social Work offer a singular and significant strength to the proposed program. This background, when combined with the practical immersion experiences of the final year of the program, will provide graduates with the skill sets required to design innovative and effective prevention and public health programs for these challenging environments and communities.

v. Standard and Innovative Features

This proposal is based on Canadian Dental Association Standards as well as the Standards of the American Academy of Pediatric Dentistry (9, 10).

The proposed graduate Pediatric Dentistry program is created in response to community needs, designed to promote and conduct significant public health research, and will provide unique clinical training for future specialists. Institutional facilities and the available resources are adequate to provide the educational experiences and opportunities required to fulfill the needs of the program as specified by the educational standards (9, 10). In the process of developing the various aspects of this program, there have been several consultations with members of the profession, professional organizations, academics, support staff, and appropriate administrators (see appendix 1).

The innovative aspects of the M. DENT. Program in Pediatric Dentistry are the development of specialty training that emphasizes research/scholarship in community pediatric dentistry and prevention, provides additional education in Aboriginal cultural issues as well as issues surrounding other underserved and disadvantaged communities, and offers comprehensive practical immersion experiences in the community.

9. Commission on Dental Accreditation of Canada (Effective Nov. 30, 2003, Updated Nov. 30, 2007). Accreditation Requirements for Pediatric Dentistry Programs. Ottawa.

10. Accreditation Standards for Advanced Specialty Education Programs in Pediatric Dentistry. Commission on Dental Accreditation of the American Dental Association, www.ada.org, Implemented Jan. 2000, Adopted and Implemented July 2007.

Thus, the program will be meaningful to society and serve to prepare future specialists to be proficient in effective preventive approaches in addition to providing therapeutic oral health care for infants and children. Professional organizations have concurred that there is a need for a graduate program in Pediatric Dentistry emphasizing prevention and public health in underserved and disadvantaged communities as this would be only the second Pediatric Dentistry program in English-speaking Canada and that dental diseases are highly prevalent in a number of children from Manitoba and nationwide (see appendix 1).

How does this program contribute to Pediatric Dentistry as a discipline?

The establishment of this unique graduate program will allow the University of Manitoba to contribute to the further development of the specialty discipline referred to as Pediatric Dentistry. Pediatric Dentistry is synonymous with dentistry for children and is increasing in its importance and visibility throughout North America (11). It is expected that this program will result in improved quality of life and overall oral health status of the most vulnerable child population groups. At the same time, the required research component in Pediatric Dentistry would strengthen research and scholarship within the broad areas of dental public health and prevention in the Faculty of Dentistry further supporting the mission and vision of the University of Manitoba.

The M. DENT. program in Pediatric Dentistry will train practitioners to meet the majority of dental needs of the children of the Province of Manitoba. The education and clinical training will include specific preventive techniques, growth and development, dental restorative techniques, treatment of caries complications, management of dental infections, and the surgical treatment of a child dental patient. Emphasis on improved understanding of nutrition, oral hygiene, and the use of fluorides will be essential in the development of novel preventive strategies for the child patient. Current advances in the field of growth and development will provide the basis for improved diagnostic, preventive, and treatment outcomes for malocclusions. Clinical implementation of new dental restorative techniques, including the use of new resin-sealant materials and methods, will further improve restorative dental care. Special emphasis will be placed on improving dental care for the disabled and other patients with special needs as well as determining culturally appropriate and effective prevention approaches for Aboriginal, rural, and urban poor communities. This knowledge will foster and stimulate collaborative research interests in pediatric and other aspects of public health dentistry, which provide the knowledge and expertise to develop and improve the dental health of the communities we serve, in particular those that need help the most (12).

11. Sanchez O.M., Childres N.K. Anticipatory Guidance in Infant Oral Health: Rationale and Recommendations, Am Fam Physician 60: 115-20, 123-4, 2000.

12. Ramos-Gomez F.J. Clinical considerations for an infant oral health care program. Compend Contin Dent Educ 26: 17-23, 2005.

In English-speaking Canadian Universities, a Pediatric Dentistry graduate program is offered only at the University of Toronto, thus providing an insufficient number of specialists to meet the demands of over 15,000,000 young Canadians (age 0-18). Indeed, Manitoba and Canada are at present left without an adequate opportunity to educate and recruit sufficient numbers of pediatric dentists who will work with children. As a consequence, the prevalence of dental diseases in certain population groups (i.e., Aboriginal and the working poor) remains very high and is on the level of the developing world (3). The University of Manitoba has recognized this problem and in the early 1970's (1970-1973) provided a graduate Pediatric Dentistry program. Unfortunately, because of staffing problems, this program lasted for only three years. However, in the United States, more than 30 Universities are offering specialty programs in Pediatric Dentistry. Although enrollment in these programs is an option for Canadian students, not all graduates return to Canada, where the shortage of specialists remains a problem. Further, a current shortage of pediatric dentists in the United States has resulted in a decreased acceptance of foreign students into the programs. Clearly, Pediatric Dentistry is an important clinical discipline and the University of Manitoba has another opportunity to become an international leader in facilitating the development of this specialty.

B. INSTITUTIONAL RELATIONSHIPS

i. *Interdisciplinarity*

The proposed graduate program in Pediatric Dentistry will allow the pursuit of interdisciplinary education. It will provide students with the opportunity to work with members of other Faculties, departments, and professions who are able to provide valuable supplemental skill sets to their knowledge in the dental field. The program will present a core body of courses in the field of Pediatric Dentistry, while at the same time providing a broad complement of discipline-specific electives in other Faculties and departments that will provide an understanding of cultural, societal, and political issues in First Nations, rural, and urban poor communities as well as enriching the research capabilities of the students (see teaching curriculum). There is a diverse group of faculty members at the University of Manitoba and beyond with expertise that relates to Pediatric Dentistry and the cultures of First Nations, rural, and urban poor communities. They are located in the Faculties of Arts, Dentistry, Extended Education, Human Ecology, Medicine, and Social Work.

The interdisciplinary character of the proposed program is congruent with the University of Manitoba's publicly stated commitment to interprofessional education (see the recent IECPCP report at <http://www.umanitoba.ca/faculties/medicine/education/iepcp>) and to develop more interdisciplinary research, education, and training programs (see the Roblin Commission report at http://www.umanitoba.ca/admin/president/2001_strategic_plan.pdf). This was reiterated by the University of Manitoba's Task Force on Strategic Planning (13). The Task Force noted that, "As department complements shrink, and as interdisciplinary approaches to problem-solving gain ascendancy in many fields of study, we can expect to receive applications from individuals who seek to be appointed or affiliated with people from more than one department or Faculty".

Thus, the proposed graduate program in Pediatric Dentistry offers students the opportunity to complete the advanced study of issues relating to children with oral health problems within the framework and support of a broad base of Faculties and disciplines, and in a manner that reflects their commitment to the well being of the community and sensitivity for the future of the most vulnerable section of its population.

ii. *Advantages of interdisciplinarity in a Pediatric Dentistry program*

As discussed above, Pediatric Dentistry is a recognized academic and specialty discipline and represents a growing field of study in several universities in North America and Europe. There are many reasons why an interdisciplinary program is preferable when educating future specialists in Pediatric Dentistry.

13. Building on Strengths: Final Report of the Task Force on Strategic Planning, (The University of Manitoba, February, 1998), p. 66.

Rigor and Consistency: A graduate program in Pediatric Dentistry, with broad clinical training, variety of coursework encompassing disciplines related to understanding underserved and disadvantaged cultures, extensive community immersion experiences, and a significant public health/prevention research project will serve to guarantee academic integrity, consistency, and rigor. The program is designed to enrich student interest in interdisciplinary practice and research. The proposed program goes well beyond the minimum requirements for a masters program within the Faculty of Graduate Studies, developing strong coherence within the interdisciplinary coursework and ensuring high academic standards for the Master research.

Collaborative Research and Funding:

Interdisciplinary programs offer opportunities for faculty members and students to participate in collaborative research projects. Collaborative research and interdisciplinary perspectives are both receiving increased funding and attention from national funding agencies. The proposed program will facilitate collaboration between University of Manitoba faculty and graduate students leading to the possibility of increased external funding opportunities.

Reputation:

An interdisciplinary graduate program in Pediatric Dentistry would give the University of Manitoba an opportunity to develop a unique reputation in the field. At present, there is only one specialty and Master's degree-granting Pediatric Dentistry program in English-speaking Canada. However, in the United States, Europe, and elsewhere several universities grant graduate degrees in this field. It is significant to note that all of these programs are interdisciplinary in scope. Very few of the existing programs require all residents to complete a master's level research project. This makes the proposed program different than all other existing programs and enables it to be regarded as an epicenter for intellectual thought within the areas of prevention and public health in underserved and disadvantaged communities. Thus, the University of Manitoba has a window of opportunity to develop a unique reputation in this important area.

Community and Public Health Aspects of the Program:

An interdisciplinary graduate program in Pediatric Dentistry will allow the University of Manitoba to demonstrate the benefits of its resources and expertise in Aboriginal cultures. It will also illustrate its commitment to the community and public health issues. The availability of such a program will allow the University to expand its reputation in community service and establish a unique presence in dental public health and related research.

Marketability:

Increased interest in North America and around the world for graduate studies in Pediatric Dentistry will assure a consistent and reliable applicant pool. The community service and public health approach of the program, as well as the required research component, should also be attractive to foreign students from developing countries. It is anticipated that many graduates will

return to their countries of origin as leaders in the profession, thus establishing a strong international reputation and recognition for the program.

iii. Relation to Existing Programs at the University of Manitoba

The interdisciplinary nature of the proposed program utilizes existing resources within the Faculty of Dentistry and larger University to deliver the education and training. There are a large number of courses and practical experiences already existing in specific disciplinary areas such as Community Dentistry, Community Health Sciences, Hospital Dentistry, Oral Surgery, Periodontics, Oral Biology, Orthodontics, Pediatric Dentistry, Extended Education, Family Social Sciences, Native Studies, and Social Work. These courses and the clinical expertise within the Faculty of Dentistry will serve as a strong foundation for the program.

This proposed graduate degree program does not overlap or duplicate any existing graduate degree programs at the University of Manitoba. Rather, it provides a venue to merge the significant expertise within various Faculties, departments, and dental disciplines with clinical outreach immersion experiences in children's dentistry providing students with the ability to apply culturally appropriate oral health perspectives to underserved and disadvantaged children throughout their education and training.

The proposed program will have a close relationship with other disciplines within the Faculties of Arts, Medicine, Extended Education, Human Ecology, and Social Work. The deans of these units have stated their support of this initiative and various departments have agreed to provide students with access to the appropriate course work (see appendix 1). Additionally, the current Health Sciences Centre C3 child internship program will serve as the clinical training site and the Centre for Community Oral Health will provide the outreach and community service infrastructure using its array of established clinics throughout the province. The superior clinical training aspects of this internship and the practical immersion experiences of the community clinics will be merged with the academic and research aspects of the Faculty of Dentistry and larger University to create the new graduate program. The Winnipeg Regional Health Authority and Health Sciences Centre administration are also very supportive of the conversion of the C3 program into a full graduate specialty program (see appendix 1).

iv. Enhancement of Other Programs at the University

Students enrolled in other graduate degree programs at the Faculty of Dentistry who wish to acquire additional background in Pediatric Dentistry or underserved and disadvantaged cultures will be able to incorporate some of the courses into their training or degree work. The Pediatric Dentistry program will also complement other programs, both those that are academic or clinical in nature (i.e., Community Health Sciences, Family Social Sciences, Native Studies, Orthodontics, and Social Work), by providing an additional perspective or context within which these discipline-specific skills can be applied. Additionally, the program will provide additional students for some of the courses within Extended Education.

v. **Enhancing the University's National and International Reputation**

This proposed graduate program in Pediatric Dentistry addresses many of the central themes in the mission statement of the University of Manitoba. The University has publicly dedicated itself to maintaining accessibility and strengthening its commitment to child health and its relationship with the community.

Students from other Canadian Faculties of Dentistry as well as other faculties which offer courses related to child health may wish to take the courses which would be available through this program at the University of Manitoba. There will also be an effort made to recruit students from developing countries to apply for the program, as conditions in some Canadian communities may resemble the conditions and the prevalence of dental diseases in countries from which they come. This will establish a high visibility and international profile for the program, thus providing international recognition.

Graduates from this program will be able to pursue doctoral work in various fields of dentistry or medicine. With the rapid expansion and development of this field, doctoral degrees related to Pediatric Dentistry will likely be implemented in the future at the University of Manitoba and at other universities in North America.

C. ADMINISTRATION AND SUPPORT

i. Administration of the Program

The Director of the M. DENT. Program in Pediatric Dentistry will administer the program. The Program Director will hold a full-time academic appointment at the University of Manitoba within the parent department of Preventive Dental Sciences and will be responsible for the teaching, research, and clinical aspects of the program. This responsibility includes appointing instructors, assigning advisors for students, as well as selecting research and admission committee members. In addition, the program director will have signing authority for program matters and responsibility for the day-to-day administration of the program.

The program director will be responsible for the administration of the program together with the Pediatric Dentistry Graduate Program Committee. This committee will be comprised of 11 members as follows:

- The Program Director
- One representative from the Department of Preventive Dental Science
- One representative from the Faculty of Dentistry,
- One representative from Community Health Sciences,
- One representative from Native Studies,
- One representative from the Faculty of Social Work,
- One representative from Family Social Sciences,
- One representative from the Center for Community and Oral Health
- One representative from the Manitoba Dental Association
- One part-time staff member employed to teach in the program
- One Pediatric Dentistry graduate student representative

The committee will report annually to the Department Head and the Dean of the Faculty of Dentistry as well as the Dean of the Faculty of Graduate Studies, on all academic matters. The length of term for committee representatives will be staggered initially ($\frac{1}{2}$ for one year and $\frac{1}{2}$ for two years), and then will be regularized into two-year terms as positions become available.

The Pediatric Dentistry Graduate Program Committee will be responsible for changes to curriculum and student standing. This includes, for example academic advising, appeals, and reviewing student progress. This will be conducted in accordance with the Faculty of Graduate Studies regulations.

ii. Program Components

Residents for this program will be admitted through the Faculty of Graduate Studies and all academic programs must be approved by the Faculty of Graduate Studies upon the recommendation from the Pediatric Dentistry Graduate Program Committee. The proposed program will award a Masters degree in Dentistry (M. Dent.) with a specialization in Pediatric Dentistry (similar to the parchment currently awarded in the graduate Periodontics and Oral Surgery programs).

Program academic and clinical components have been designed to meet the national accreditation standards of the Canadian Dental Association and also conform to the University guidelines for a 60-hour graduate program. Program courses and clinical training experiences provide students with comprehensive background knowledge and technical skills. Students will be required to take 60 credit hours of biomedical/clinical science courses (taken from a menu of required and elective courses) and thesis, and to complete the required clinical experiences (see H. Curriculum). To complete the program successfully, students are expected to pass the clinical competencies and the exams as well as to complete the required assignments.

All students' academic programs and proposed course work must be approved by the Pediatric Dentistry Graduate Program Committee. This will normally be done on the recommendation from the program director, student's advisor, and/or advisory committee following consultation with the student. The thesis topic will be examined and recommended for approval by the program director and research advisor for consideration by the Pediatric Dentistry Graduate Program Committee. Research progress will be monitored in a similar manner.

Any program changes will be approved by the Faculty of Graduate Studies following the recommendations from the Program Director, student's advisor, and/or advisory committee and in consultations with the resident. Upon successful completion of the M. DENT. in Pediatric Dentistry, the Faculty of Graduate Studies will recommend to the Senate of the University the convocation date and the diploma or the degree to be awarded.

iii. Administrative Flowchart

There are a number of academics from different Departments that will be involved in providing teaching and research mentorship.

Department	Chairman of Department	Areas of Instruction
Preventive Dental Science	Dr. William Wiltshire	Didactic, clinical, research
Restorative Dentistry	Dr. Igor Pesun	Didactic, clinical, research
Oral Biology	Dr. Raj Bhullar	Didactic, research
Dental Diagnostics and Surgical Sciences	Dr. John Curran	Didactic, clinical
School of Dental Hygiene	Prof. Salme Lavigne	Didactic, clinical
Pediatrics and Child Health	Dr. Cheryl Greenberg	Didactic, clinical, research
Children's Hospital Emergency Services	Dr. Milton Tenenbein	Didactic, clinical
Pediatric Anesthesia	Dr. Heinz Reimer	Clinical
Community Health Sciences	Dr. Thomas Hassard	Didactic, research
Center for Aboriginal Health Research	Dr. Judy Bartlett	Didactic, research

Department Heads within the Faculty of Dentistry will ensure the fulfillment of the teaching and research components of the program (see appendix 1). Their staff will have cross appointments with the Department of Preventive Dental Science and these appointments will be recommended by the Director of the Pediatric Dentistry Graduate Program.

iv. Financial Resources

Start-Up

Capital Start-Up Costs

Dental Equipment	\$300,000
Office Equipment	\$50,000
Clinic Renovation Costs	\$650,000

Total \$1,000,000 (perhaps up to an additional \$200,000 in contingencies)

The current state of the hospital clinic facilities is very poor, thus initial start-up funding is needed for clinic redevelopment. This start-up funding is targeted to come from multiple sources such as the Winnipeg Foundation, WRHA, fundraising from the practicing pediatric specialty community, and the Faculty of Dentistry if required. Several years ago, the Winnipeg Foundation agreed to provide \$1,000,000 for program start-up costs and a request to renew this commitment at a level of \$500,000 is under consideration at this time. The WRHA has already pledged their financial support for facilities renovation and has initiated that process. The program operating budget is very encouraging. By year two, the significant profitability of the program ensures that any Faculty investment will be rapidly recovered. The program would then be self-sustaining as clinic operations are structured to provide cost recovery. The Faculty currently has three full-time salary lines assigned to the program (2 of these are "true" academic positions as one is a traditional tenure track position and the other is permanently funded for this program by the WRHA; the other position is currently funded on contingency from the dean's office but is scheduled to be shifted to the next available tenure-track position in the Faculty). The baseline salary for the third full-time position would be requested from the Council on Post-Secondary Education (COPSE) however, if that request was denied, the Faculty could conceivably support the position from program revenues.

D. FINANCIAL RESOURCES (Operating)

	2010/2011 2 students	2011/12 4 students	2012/13 6 students	2013/14 6 students	2014/15 6 students	
Revenue Projection						
Tuition fees	\$17,000	\$35,020	\$54,105	\$55,728	\$57,399	(a)
Clinic Income (net of lab fees) year 1	\$352,000	\$359,040	\$366,221	\$373,545	\$381,016	(b)
Clinic Income (net of lab fees) year 2		\$430,848	\$439,465	\$448,254	\$457,219	(b)
Clinic Income (net of lab fees) year 3			\$105,600	\$107,712	\$109,866	(b)
PGME stipends (WRHA)	\$104,000	\$208,000	\$312,000	\$312,000	\$312,000	(e)
Clinic revenue from instructors	\$30,000	\$30,600	\$31,212	\$31,836	\$32,473	(b)
Other revenue (outreach clinics e.g Norway House)	\$36,000	\$62,424	\$63,672	\$64,945	\$66,244	
Total Income	\$539,000	\$1,125,932	\$1,372,275	\$1,394,021	\$1,416,218	

Expense Projection

Staff						
Academic Staff (3.0 FTE)	\$0	\$0	\$0	\$0	\$0	(c)
Resident stipends	\$104,000	\$208,000	\$312,000	\$312,000	\$312,000	(e)
Support Staff (2.5 FTE)	\$127,000	\$132,080	\$137,363	\$142,858	\$148,572	(d)
Dental Hygienist (1 FTE)	\$62,000	\$64,480	\$67,059	\$69,742	\$72,531	
Office Manager (1 FTE)	\$35,000	\$36,400	\$37,856	\$39,370	\$40,945	
Nurse (.5 FTE)	\$30,000	\$31,200	\$32,448	\$33,746	\$35,096	
Staff Benefits (13.5%)	\$31,185	\$45,911	\$60,664	\$61,406	\$62,177	
Payroll Levy (1.25%)	\$2,363	\$2,457	\$2,555	\$2,657	\$2,764	
Total salary expenses	\$391,548	\$520,528	\$649,946	\$661,779	\$674,085	

Supplies/Other

Postage, Telephone, Fax	\$3,800	\$3,850	\$3,900	\$3,950	\$4,000	
Journals and Books	\$5,000	\$4,000	\$4,000	\$4,000	\$4,000	
Dental supplies (20% of income)	\$107,800	\$225,186	\$274,455	\$278,804	\$283,244	
Office supplies (5% of income)	\$26,950	\$56,297	\$68,614	\$69,701	\$70,811	
Repair and maintenance (2% of income)	\$10,780	\$22,519	\$27,445	\$27,880	\$28,324	
Bad debts/collection fees (3% of income)	\$16,170	\$33,778	\$41,168	\$41,821	\$42,487	
Marketing/Recruitment	\$8,000	\$5,000	\$2,000	\$1,000	\$1,000	
Total non-salary expenses	\$178,500	\$350,630	\$421,582	\$427,156	\$433,865	
Total expenses	\$570,048	\$871,157	\$1,071,528	\$1,088,935	\$1,107,950	
Net Balance (debit) credit	(\$31,048)	\$254,775	\$300,747	\$305,086	\$308,267	

(a) Year 1 tuition \$17,000 per resident each year after assumes 3% increase. This is similar to the University of Toronto program.
The University Administration has agreed to sharing a minimum of 50%.

(b) Assumes a 2% increase in patient fees

(c) 2 positions are within the faculty budget, 1 is a tenured, one is sponsored by the WRHA, 1 current term position will be moved to a tenure-track

(d) Assumes a 4% increase annually

(e) supporting letter from WRHA for resident stipends

D. PHYSICAL FACILITIES

The proposed graduate program in Pediatric Dentistry provides an opportunity to increase all types of interactions with other Faculties and departments. This interaction increases the impact and efficiencies of current space, equipment, libraries, and other University, Health Sciences Centre, and community facilities.

i. Space

Most of the clinical teaching will be conducted in the existing C3 child internship clinical area at the Children's Hospital (685 William Avenue, Winnipeg, MB). The clinic will need to be renovated so that it can accommodate up to four residents simultaneously (see appendix 4). The renovated clinical area will include:

- a. 4 operational units (box type facing one another)
- b. 1 dental room for patient isolation
- c. 1 sedation room
- d. 1 preparatory and recovery room
- e. 1 lab unit
- f. 1 sterilization room
- g. 1 dispensary room
- h. 1 reception area
- i. 1 waiting room
- j. 2 washrooms
- k. 1 seminar and 1 student room
- l. 1 staff office

Any space requirements for teaching outside this graduate Pediatric Dentistry clinic will be negotiated with participating Faculties and departments. Note that residents will also have individual desk space at the Faculty of Dentistry (office space currently being developed on the fourth floor of the Faculty of Dentistry building, 780 Bannatyne Ave, Winnipeg, MB).

ii. Equipment

Didactic Teaching

The program will use already-existing resources (e.g., overhead, slide and video projectors) which are available for classroom use at the Faculty of Dentistry and the University at large. Most of the didactic teaching will take place in the local graduate seminar room. However, some didactic teaching will have to be conducted in lecture theatres at the Faculty of Dentistry and/or University at large. This may also include the use of internet links to connect the program with the Hospital for Sick Children.

Clinical Teaching

Most of the clinical teaching will take place in the clinic located at 685 William Ave. To facilitate clinical teaching, the following equipment will be included:

- a. 5 fully equipped dental units (4 in operational rooms + 1 in sedation room)
- b. 7 sets of dental instruments and materials
- c. 1 emergency equipment for dental surgeon
- d. 1 emergency equipment for advanced life support
- e. 1 inhalation sedation unit.
- f. 1 equipment for inhalation sedation
- g. 2 sets of pulse oximeters, pressure cuffs and capnographies
- h. 1 recovery bed
- i. 1 sterilization unit
- j. 2 computers
- k. 2 slide projectors, 1 digital projector and 2 screens
- l. 1 monitor and VCR projector for the waiting room
- m. 1 video camera and a ceiling mounted microphone for the research clinic
- n. 1 ceiling mounted video/data recorder and speakers for the seminar room
- o. 4 telephone lines with voice mails and 4 computer connections for staff

Note: Inhalation or oral type of sedation will be used only and in full accordance with the guidelines set by the Manitoba Dental Association.

iii. Research

Residents will utilize research facilities available to all students at the Faculty of Dentistry or at other participating Faculties at the University of Manitoba.

Computers

Residents will utilize computer resources that are available to students of the Faculty of Dentistry as well as the two new computers, which will facilitate clinical work and research. Further, students will have access to computer facilities similar to other graduate students at the University. Note that staff will require 4 computer connections, located in their offices (for information and technology services resource implication statement, see appendix 2).

iv. Library

The library is viewed as an important learning center for this program. Residents will be using the library resources at the Neil John MacLean Health Sciences Library. This library supports the teaching, research and patient care requirements of the staff and students of the Faculties of Dentistry and Medicine, and Schools of Dental Hygiene and Medical Rehabilitation. It offers a range of access and technical services including circulation, document delivery, and reference. The reading material will include topic outlines with selected references in the form of books and journal articles, as well as computer-based media. The Neil John MacLean Health Science Library is well prepared for the program and will not require any additional journal subscriptions (see appendix 2 for resource implication statement).

E. FACULTY AND FACULTY DEVELOPMENT

There is a wealth of resources available within the University that is directly or indirectly related to the course of study outlined in the proposed program. The majority of the courses from the teaching curriculum already exist within different Faculties and departments at the University of Manitoba. In terms of research, there are a number of ongoing studies being conducted by University faculty in various areas of child oral health and children's dental public health issues in underserved and disadvantaged communities. Additionally, there are several appropriate outreach clinics for community immersion experiences already existing throughout Manitoba under the direction of the Centre for Community Oral Health. Thus, the proposed graduate program in Pediatric Dentistry will tap into the rich pool of resources already available within the university, Health Sciences Centre, and external community.

i. Faculty

There are a significant number of faculty members in various departments within the faculty of Dentistry who have a specific interest in some aspect of child health. These faculty members have experience as thesis advisors or committee members for students in a wide variety of disciplines including: Orthodontics, Community Dentistry, Restorative Dentistry, Endodontics, Periodontology, Oral Surgery, Hospital Dentistry, and Oral Biology. They are also engaged in research closely related to Pediatric Dentistry and this work has been published in many reputable Canadian, American and international journals.

The following list identifies faculty members who will undertake various roles in the Pediatric Dentistry graduate program including teaching courses/clinics, research and advising students.

Name of Faculty Member	Teaching and Research Résumé
Dr. Charles Lekic	Program Director
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 3 yrs Master and Pediatric Dentistry training, 4yrs PhD Fellowship RCDC exam in 2003
Academic Rank, Title and Department	Professor, Pediatric Dentistry Division Head, Department of Preventive Dental Science
Years of Teaching Experience (Full-time and Part-Time)	Full-time 23 yrs, part-time 6 yrs
Areas of teaching in this program	Didactic and clinical teaching in Pediatric Dentistry as well as research mentorship
Hours of teaching in this program	Full-time
Basic Science	20%
Clinical Science	70%
Related Science	10%

Name of Faculty Member	Teaching and Research Résumé
Dr. William Wiltshire	Head, Department of Preventive Dental Science
Length of advanced education degrees, diplomas or fellowships	5 1/2 yrs Doctor of Dental Medicine 4 yrs Master and Orthodontic training, 2 yrs Master of Dentistry, 2 yrs Doctorate degree Fellowship RCDC exam in 2004
Academic Rank, Title and Department	Professor, Department Head, Director of Orthodontic Graduate Program
Years of Teaching Experience (Full-time and Part-Time)	Full-time 22 yrs, part-time 2 yrs
Areas of teaching in this program	Clinical Craniofacial Growth and Development
Hours of teaching in this program	12 h
Basic Science	20%
Clinical Science	60%
Related Science	20%

Name of Faculty Member	Teaching and Research Résumé
Dr. Steve Ahing	Course Coordinator
Length of advanced education degrees, diplomas or fellowships	4 yrs Doctor of Dental Science, 3 yrs Master and Oral Pathology training, Fellowship RCDC exam in 1998
Academic Rank, Title and Department	Professor, Department of Dental Diagnostics and Surgical Sciences
Years of Teaching Experience (Full-time and Part-Time)	Full-time 22 yrs
Areas of teaching in this program	Coordinating Advanced Oral Pathology course
Hours of teaching in this program	12 h
Basic Science	20%
Clinical Science	80%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Raj Bhullar	Course instructor
Length of advanced education degrees, diplomas or fellowships	4 yrs Bachelor of Science degree, 2 yrs Master program, 4 yrs PhD
Academic Rank, Title and Department	Professor, Head of Oral Biology Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 23 yrs, part-time 3 yrs
Areas of teaching in this program	Preventive Programs in Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	70%
Clinical Science	10%
Related Science	20%

Name of Faculty Member	Teaching and Research Résumé
Dr. Catalina Birek	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 3 yrs Master and Oral Pathology training, 4 yrs PhD Fellowship RCDC exam in 2004
Academic Rank, Title and Department	Professor, Oral Biology Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 20 yrs
Areas of teaching in this program	Clinical Craniofacial Growth and Development
Hours of teaching in this program	6 h
Basic Science	70%
Clinical Science	30%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Tammy Bonstein	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 2 yrs Masters in Dental Materials
Academic Rank, Title and Department	Assistant Professor, Restorative Dentistry Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 4 yrs, part-time 2 yrs
Areas of teaching in this program	Management & Restorative Treatment of Pediatric Patients
Hours of teaching in this program	6 h
Basic Science	30%
Clinical Science	70%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Doug Brothwell	Course coordinator
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 4 yrs Master & Public Health Dentistry training
Academic Rank, Title and Department	Assoc. Professor, Preventive Dental Science Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 9 yrs, part-time 3 yrs
Areas of teaching in this program	Preventive Programs in Pediatric Dentistry
Hours of teaching in this program	6 h
Basic Science	10%
Clinical Science	70%
Related Science	20%

Name of Faculty Member	Teaching and Research Résumé
Dr. Karina Gamboa	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 3 yrs of Diploma Program in Pediatric Dentistry
Academic Rank, Title and Department	Assistant Professor, Preventive Dental Science Depart.
Years of Teaching Experience (Full-time and Part-Time)	Part-time 1 yr
Areas of teaching in this program	Management & Restorative Treatment of Pediatric Patients, Hospital Pediatric Dentistry
Hours of teaching in this program	12 h
Basic Science	10%
Clinical Science	90%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Shirley Gelskey	Course instructor
Length of advanced education degrees, diplomas or fellowships	3 yrs School of Dental Hygiene, 4 yrs PhD
Academic Rank, Title and Department	Professor, Dental Diagnostics and Surgical Sciences Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 22 yrs, part-time 4 yrs
Areas of teaching in this program	Preventive and Community Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	20%
Clinical Science	60%
Related Science	20%

Name of Faculty Member	Teaching and Research Résumé
Dr. Thomas Hassard	Course coordinator
Length of advanced education degrees, diplomas or fellowships	5 yrs Medical Doctor, 3 yrs Public Health training, 4 yrs PhD
Academic Rank, Title and Department	Professor, Head of Biostatistics
Years of Teaching Experience (Full-time and Part-Time)	Full-time 24 yrs
Areas of teaching in this program	Biostatistics
Hours of teaching in this program	6 h
Basic Science	
Clinical Science	
Related Science	100%

Name of Faculty Member	Teaching and Research Résumé
Dr. Anthony Iacopino	Course instructor
Length of advanced education degrees, diplomas or fellowships	4 yrs Doctor of Dental Medicine, 3 yrs Prosthodontic training, 4 yrs PhD
Academic Rank, Title and Department	Professor, Dean of the Faculty of Dentistry
Years of Teaching Experience (Full-time and Part-Time)	Full-time 18 yrs, part-time 4 yrs
Areas of teaching in this program	Research Methodology and Oral-Systemic Medicine
Hours of teaching in this program	3 h
Basic Science	80%
Clinical Science	10%
Related Science	10%

Name of Faculty Member	Teaching and Research Résumé
Prof. Laura MacDonald	Course instructor
Length of advanced education degrees, diplomas or fellowships	3 yrs School of Dental Hygiene
Academic Rank, Title and Department	Professor, School of Dental Hygiene
Years of Teaching Experience (Full-time and Part-Time)	Full-time 18 yrs
Areas of teaching in this program	Preventive and Community Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	20%
Clinical Science	80%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Heinz Reimer	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Medical Doctor, 5 yrs of Anesthesia training, 1 yr Fellowship in Pediatric Anesthesia
Academic Rank, Title and Department	Assist Professor, Section Head, Pediatric Anesthesia, Pediatrics & Child Health Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 24 yrs
Areas of teaching in this program	Hospital Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	
Clinical Science	100%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Archibald McNicol	Course instructor
Length of advanced education degrees, diplomas or fellowships	4 yrs Bachelor of Science degree, 2 yrs Master program, 4 yrs PhD
Academic Rank, Title and Department	Professor, Oral Biology Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 16 yrs
Areas of teaching in this program	Pharmacology and Therapeutics
Hours of teaching in this program	3 h
Basic Science	100%
Clinical Science	
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Gutulio Nogueira	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 3 yrs Master and Periodontics training, 4 yrs PhD
Academic Rank, Title and Department	Assoc Professor, Dental Diagnostics and Surgical Sciences Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 16 yrs
Areas of teaching in this program	Special Care and Emergency Services in Pediatric Dental Patients
Hours of teaching in this program	3 h
Basic Science	20%
Clinical Science	80%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Igor Pesun	Course instructor
Length of advanced education degrees, diplomas or fellowships	4 yrs Doctor of Dental Medicine, 3 yrs Master and Prosthodontic training
Academic Rank, Title and Department	Assoc Professor, Head of Restorative Dentistry Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 14 yrs, part-time 4 yrs
Areas of teaching in this program	Management and Restorative Treatment of Pediatric Patients, Clinical Craniofacial Growth and Development
Hours of teaching in this program	3 h
Basic Science	10%
Clinical Science	90%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Drew Bruckner	Course instructor
Length of advanced education degrees, diplomas or fellowships	4 yrs Doctor of Dental Medicine, 3 yrs Master and Endodontic training
Academic Rank, Title and Department	Assist Professor, Restorative Dentistry Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 2yrs, part-time 10 yrs
Areas of teaching in this program	Management and Restorative Treatment of Pediatric Patients
Hours of teaching in this program	3 h
Basic Science	10%
Clinical Science	90%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. German Ramirez	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 2 yrs Pediatric Dentistry training, 2 yrs MSc, 4 yrs PhD
Academic Rank, Title and Department	Assist Professor, Preventive Dental Science Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 14 yrs, part-time 4 yrs
Areas of teaching in this program	Management and Restorative Treatment of Pediatric Patients
Hours of teaching in this program	3 h
Basic Science	10%
Clinical Science	90%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Elliot Scott	Course coordinator
Length of advanced education degrees, diplomas or fellowships	4 yrs Bachelor of Science degree, 2 yrs Master program, 4 yrs PhD
Academic Rank, Title and Department	Professor, Oral Biology Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 18 yrs
Areas of teaching in this program	Advanced Head and Neck Anatomy
Hours of teaching in this program	12 h
Basic Science	90%
Clinical Science	10%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Andrew Stoykewych	Course instructor
Length of advanced education degrees, diplomas or fellowships	4 yrs Doctor of Dental Medicine, 4 yrs Oral Surgery training
Academic Rank, Title and Department	Assoc Professor, Dental Diagnostics and Surgical Sciences Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 17 yrs, part-time 6 yrs
Areas of teaching in this program	Hospital Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	
Clinical Science	100%
Related Science	

Name of Faculty Member	Teaching and Research Résumé
Dr. Milton Tenenbein	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Medical Doctor, 5 yrs of Pediatrics training, 1 yr Fellowship in Pediatric Emergencies
Academic Rank, Title and Department	Professor, Section Head, Pediatric Emergencies, Pediatrics & Child Health Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 24 yrs
Areas of teaching in this program	Hospital Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	
Clinical Science	100%
Related Science	

Dr. Olya Odum	Course instructor
Length of advanced education degrees, diplomas or fellowships	5 yrs Doctor of Dental Medicine, 3 yrs Public Health
Academic Rank, Title and Department	Senior Scholar, Preventive Dental Science Depart.
Years of Teaching Experience (Full-time and Part-Time)	Full-time 30 yrs, part-time 3yrs
Areas of teaching in this program	Preventive and Community Pediatric Dentistry
Hours of teaching in this program	3 h
Basic Science	30%
Clinical Science	70%
Related Science	

ii. Support Staff and Administration

This program will require a 5.5 full-time-equivalent support staff (1 administrator, 2 dental assistants, 1 dental hygienist, 1 receptionist, and 0.5 time sedation nurse). Support staff will be involved in various aspects of the clinical program, office management, admissions documentation, and record keeping. Specifically, 2 dental assistants will provide chair-side assistance in the graduate clinic, the nurse will provide conscious sedation to patients in sedation clinic, and the dental hygienist will be involved in restorative and preventive aspects of the clinical work. The receptionist will be the office manager. The receptionist, sedation nurse, hygienist, and two dental assistants are already part of the existing C3 training program at Children's Hospital and would be incorporated into the new graduate specialty program. Thus, the new support staff positions required is the dental hygienist and the administrator.

F. RESEARCH AND SCHOLARLY ACTIVITIES

i. Research Requirements

The proposed M. DENT. program requires rigorous research experience consisting of Masters level research project and thesis defense. Approval, preparation and the Master thesis defense will be conducted in the accordance with the rules and regulations set forth by the Faculty of Graduate Studies.

ii. Master's Thesis Regulations

Purpose. The thesis should show that students have mastery of the field in which they present themselves and are fully conversant with the relevant literature.

Thesis Proposal. The resident must submit a thesis proposal for approval by the program director on recommendation from the advisor. The proposal must be approved before substantial progress is made toward the thesis research project. Significant deviations subsequent to the initial proposal must be similarly approved.

Style and Format. The thesis must be written according to a standard style acknowledged by a particular field of study and recommended by the program director, be lucid, well-written, and publication of findings will be encouraged. Copies of the thesis will have to be clearly legible, and will be reproduced by any method acceptable to the Faculty of Graduate Studies.

Deadlines for Submission. The Academic Schedule in the Graduate Calendar will be consulted regarding dates by which theses must be submitted to the Faculty of Graduate Studies.

Submission of Final Copies. Following approval of the thesis by the examining committee and the completion of any revisions required by that committee, two copies will be submitted to the Graduate Studies Office in unbound form, enclosed in an envelope or folder. These copies are required for the University Library and remain the property of the University of Manitoba.

Examining Committee. The resident's advisor will recommend a thesis examining committee to the department head for approval, which will then be reported to the Graduate Studies Office on the "Thesis/Practicum Title and Appointment of Examiners" form. The committee will consist of a minimum of three persons, representing at least two different disciplines. At least two examiners will be members of the Faculty of Graduate Studies at the University of Manitoba. The third member must be an individual the advisor and department head deem qualified for the assignment, is external to the Department, and is willing to serve. In exceptional cases, on recommendation from the program director, the Dean of the Faculty of Graduate Studies may appoint an examiner from outside the University of Manitoba.

Distribution and Examination. The program director will arrange for the distribution of the thesis

to the examiners, and will notify the Graduate Studies general office that the thesis has been distributed for examination. It is the duty of all examiners to read the thesis and report on its merits according to the following categories:

- Acceptable without modification or with minor revision(s)
- Acceptable subject to modification and/or revision(s)
- Not acceptable

Thesis Defense. Normally, residents will present their thesis and be prepared for oral examination on the subject of the thesis and matters relating thereto. The thesis defense shall be open to all members of the University of Manitoba community.

Final Approval/Rejection. Following completion of the defense of the thesis, the examiners will consider their report on the defense and on the written thesis and will also determine the nature of and procedures for approval of any revisions that will be required prior to submission of the thesis to the Faculty of Graduate Studies. The advisor is normally responsible for ensuring that revisions are completed according to the instructions from the examining committee. The Faculty of Graduate Studies will accept the thesis if submitted with a signed statement from the advisor that the required revision has been completed.

Final Report. The judgment of the examiners shall be reported to the Faculty of Graduate Studies in the qualitative terms "approved" or "not approved" on the "Master's Thesis/Practicum Final Report Form". Such verdicts must be unanimous and each examiner must indicate, by his/her signature, concurrence with the verdict. Anything less than unanimity shall be considered a failure. The candidate will be recommended for the M. DENT. degree upon the receipt by the Faculty of Graduate Studies of the favorable results of the thesis committee and when the corrected copies of the thesis are submitted to the Faculty of Graduate Studies, assuming all other program requirements have been met.

G. ADMISSION STANDARDS

i. Admission Requirements

Admission will conform to existing Faculty of Graduate Studies minimum regulations. It will be based on specific and well-defined selection criteria and will be readily available to advisors and applicants. Academic performance will not be the sole criterion as non-academic criteria will also be considered in the overall assessment of applicants for admission:

Selection criteria:

- a. Academic records including dental school cumulative rank, graduating year rank, awards, scholarships, dental school cumulative grade point, and other degrees, research and publication record (30%).
- b. Clinical experience such as hospital Pediatric Dentistry residency (minimum one year), general practice residency (minimum one year), general practice experience (minimum one year), part-time faculty experience (at a dental school), clinical awards (30%).
- c. Other: interview evaluation, letters of recommendation, personal statement, student-based research and presentation experience, and proficiency in English if required (40%).
- d. Preference will be given to applicants demonstrating a sincere desire to practice in underserved communities and excel in the research component of the program.

Candidates for admission will be graduates from accredited dental schools in Canada or the United States or possess an equivalent educational background. The applicant's academic standing must be such that it gives reasonable assurance of the successful completion of the program. Several means will be used to evaluate the applicant's qualifications. Among these are personal recommendations, interviews, national board results, academic records, and experience in Pediatric Dentistry, hospital residency or general practice. In the case of graduates whose primary language is not English, a language proficiency examination may be required.

It is recognized that residents may transfer, with credit, from one accredited program to another. An accredited program accepting such a transfer resident must also clearly recognize an obligation to ensure that the students complete the overall didactic and clinical preparation required. Logistically, it should be possible to accept such a transfer residents.

Residents will be required to take immunization against infectious diseases such as mumps, measles, rubella, and hepatitis B prior to contact with patients and/or potentially infectious objects or materials. This is to be done in an effort to minimize risk of infection to patients and dental personnel. Residents will also be required to obtain current certification in basic life support and pediatric advanced life support.

ii. Admission Procedure

Members of the Selection Committee will review applications for admission. The committee will be appointed by the program director and will have five members (one Pediatric Dentistry graduate student, two dental academics and a Pediatric Dentistry specialist). A \$50.00 application fee for the Faculty of Graduate Studies and a \$50.00 application fee for the Division of Pediatric Dentistry should accompany each application. Pediatric Dentistry will use its \$50.00 fee toward interviewing expenses. Following the deadline for applications, a provisional short-list will be produced, reviewed, and a final short-list of 10-12 applicants prepared. These candidates will be interviewed at their own expense.

An extended interview process will be used to objectively evaluate the candidate, using individual interviews as well as formal committee interviews. The committee members will conduct the formal interview to obtain a global view of the candidate's overall performance. The formal interview will include library assignments as well as an oral presentation to evaluate the applicant's ability to evaluate and present scientific literature.

The final list will be drawn up after the interviews and the positions will be offered to the top two candidates. These candidates will be given two weeks to respond to the offer and if they accept the position, a \$1,000 acceptance deposit will be required. This deposit will be credited toward first year tuition fees if the candidate starts the program. If the candidate does not honor his/her acceptance, the Department of Preventive Dental Science will retain the deposit on a 30:70 split with Pediatric Dentistry and this money will revert to "general funds". Upon accepting the offer, residents will be encouraged to precede with the immunization against infectious diseases, outlined in the Infection Control Protocol of the Faculty of Dentistry, University of Manitoba.

H. CURRICULUM

i. Teaching Curriculum

The curriculum in graduate Pediatric Dentistry degree will provide the opportunity to extend the resident's diagnostic ability, basic and advanced clinical knowledge and skills, and critical judgment. It also offers experience in closely related areas to ensure that students become proficient in comprehensive care.

The core portion of the curriculum will include subject matter necessary for the development of a pediatric dentist. A supporting portion of the curriculum extends the resident's educational experience and enhances his/her ability to think critically and independently and to communicate information clearly, effectively and accurately. Curriculum also includes knowledge of contemporary social issues and the principles of professional behavior as well as the understanding of infection control and its application in clinical practice. The program director will ensure curriculum coordination and will report to the Pediatric Dentistry Graduate Program Committee. An annual report will be submitted to the Department Head and the Deans of the Faculty of Dentistry and the Faculty of Graduate Studies (see C. Administration and Support).

ii. List of Courses

Required Basic Sciences Courses for the Specialty Training

ANAT 70XX - Advanced Head and Neck Anatomy (3 credit hours)

DDSS 7230 - Advanced Oral Pathology (3 credit hours)

ORLB 7090 - Pharmacology and Therapeutics (3 credit hours)

Required Clinical Courses for the Specialty Training

PDSD 7040 - Clinical Craniofacial Growth and Development/Orthopedics (3 credit hours)

✓ PDSD XXXX - Hospital Pediatric Dentistry I (6 credit hours)

✓ PDSD XXXX - Hospital Pediatric Dentistry II (6 credit hours)

✓ PDSD XXXX - Management & Restorative Treatment of Pediatric Patients I (6 credit hours)

✓ PDSD XXXX - Management & Restorative Treatment of Pediatric Patients II (6 credit hours)

✓ PDSD XXXX - Preventive and Community Pediatric Dentistry (3 credit hours)

✓ PDSD XXXX - Special Needs and Emergency Care in Pediatric Patients (3 credit hours)

Required Courses for the Masters Component of the Program

CHSC 7470 - Biostatistics I (3 credit hours)

✓ PDSD XXXX - Preventive Programs in Pediatric Dentistry (3 credit hours)

NATV 1200 - The Native Peoples of Canada (6 credit hours)

Elective Courses for the Masters Component of the Program

A list of elective courses is provided (see appendix 3) and consists of courses offered through various departments at the University of Manitoba. The choice of elective courses will be determined through consultation with the program director and will not be limited to this list as additional or more appropriate courses may be available in the future. Residents will be required to select three elective courses (9 credit hours) during the second and third years of their program.

Note: A total of 60 credit hours are required to complete the program (51 credit hours of required courses plus 9 hours of elective courses). A successful thesis defense is also required for program completion along with satisfactory progress in clinical training. A course that does not normally appear in graduate level programs is currently listed (NATV 1200). It is included in the program as it most closely meets the intended purpose of the background training in Aboriginal cultures. Should other "higher level" courses that meet the program objectives be developed by University units in the future, these will be considered as replacements. This course would be taken by residents long after attaining the minimum requirement of 24 credit hours of graduate level courses for the proposed M. DENT. graduate program.

iii. Course Map

Course Title and #	Advanced Head and Neck Anatomy, #7060
Graduate	First year
Undergraduate	First and second year
Clock hours during year	30
Lecture	30
Laboratory	
Clinic	
Total	30
Credit hours	3
Names of instructors and Departments	Dr. Elliot Scott, Oral Biology Dept.

Course Title and #	Advanced Oral Pathology #7230
Graduate	First year
Undergraduate	Second year
Clock hours during year	45
Lecture	30
Laboratory	15
Clinic	
Total	45
Credit hours	3
Names of instructors and Departments	Dr. Steve Ahing, Dental Diagnostics and Surgical Sciences Dept.

Course Title and #	Pharmacology and Therapeutics, #7090
Graduate	First year
Undergraduate	Third year
Clock hours during year	30
Lecture	30
Laboratory	
Clinic	
Total	30
Credit hours	3
Names of instructors and Departments	Dr. Archibald McNicol, Oral Biology Dept.

Course Title and #	Clinical Craniofacial Growth and Development/Orthopedics, #7040
Graduate	First and second year
Undergraduate	First year
Clock hours during year	60
Lecture	20
Laboratory	10
Clinic	30
Total	60
Credit hours	3
Names of instructors and Departments	Dr. William Wiltshire, Preventive Dental Science Dept., Dr. Catalina Birek, Oral Biology Dept., Dr. Charles Lekic, Preventive Dental Science Dept.

Course Title and #	Hospital Pediatric Dentistry I, PDSD XXXX
Graduate	First year
Undergraduate	Third year
Clock hours during year	60
Lecture	20
Laboratory	
Clinic	40
Total	60
Credit hours	6
Names of instructors and Departments	Dr. Karina Gamboa and Charles Lekic, Preventive Dental Science Dept., Dr. D. Brothwell, Preventive Dental Science Dept., Dr. Milton Tenenbein, Pediatrics & Child Health Dept.

Course Title and #	Hospital Pediatric Dentistry II, PDSD XXXX
Graduate	Second year
Undergraduate	Third and fourth year
Clock hours during year	60
Lecture	20
Laboratory	
Clinic	40
Total	60
Credit hours	6
Names of instructors and Departments	Drs. Karina Gamboa, German Ramirez and Charles Lekic, Preventive Dental Science Dept., Dr. Heinz Reimer Pediatrics & Child Health Dept.

Course Title and #	Management & Restorative Treatment of Pediatric Patients I, PDSD XXXX
Graduate	First year
Undergraduate	Third and fourth year
Clock hours during year	60
Lecture	15
Laboratory	10
Clinic	35
Total	60
Credit hours	6
Names of instructors and Departments	Drs. Tammy Bonstein Restorative Dentistry Dept., Drs. Karina Gamboa, German Ramirez and Charles Lekic, Preventive Dental Science Dept.

Course Title and #	Management & Restorative Treatment of Pediatric Patients II, PDSD XXXX
Graduate	Second year

Undergraduate	Third and fourth year
Clock hours during year	60
Lecture	15
Laboratory	10
Clinic	35
Total	60
Credit hours	6
Names of instructors and Departments	Drs. Drew Bruckner and Igor Pesun Restorative Dentistry Dept., Drs. Karina Gamboa, German Ramirez and Charles Lekic, Preventive Dental Science Dept.

Course Title and #	Preventive and Community Pediatric Dentistry, PDSD XXXX
Graduate	Second year
Undergraduate	Second and third year
Clock hours during year	90
Lecture	60
Laboratory	
Clinic	30
Total	90
Credit hours	3
Names of instructors and Departments	Drs. Charles Lekic, Doug Brothwell and Olva Odum, Preventive Dental Science Dept. Dr. Raj Bhullar, Oral Biology Dept., Dr. Anthony Iacopino, Restorative Dentistry Dept., Dr. Shirley Gelskey, Dental Diagnostics and Surgical Sciences Dept.

Course Title and #	Special Needs and Emergency Care in Pediatric Patients, PDSD XXXX
Graduate	First year
Undergraduate	Fourth year
Clock hours during year	60
Lecture	15
Laboratory	5
Clinic	40
Total	60
Credit hours	3
Names of instructors and Departments	Drs. Getulio Nogueira and Dr. Andrew Stoykewych, Dental Diagnostics and Surgical Sciences Dept., Drs. German Ramirez, Karina Gamboa and Charles Lekic, Preventive Dental Science Dept.

Course Title and #	Biostatistics 1, #7470
Graduate	Second year
Undergraduate	
Clock hours during year	30

Lecture	30
Laboratory	
Clinic	
Total	30
Credit hours	3
Names of instructors and Departments	Dr. Thomas Hassard, Community Health Sciences Depart.

Course Title and #	Preventive Programs in Pediatric Dentistry, PDSD XXXX
Graduate	Second year
Undergraduate	Third year
Clock hours during year	60
Lecture	30
Laboratory	
Clinic	30
Total	60
Credit hours	3
Names of instructors and Departments	Prof. L. MacDonald, School of Dental Hygiene, Drs. Charles Lekic, Doug Brothwell, Robert Schroth, Olva Odum and Karina Gamboa, Preventive Dental Science Dept.

Course Title and #	The Native Peoples of Canada, #1200
Graduate	Third year
Undergraduate	
Clock hours during year	60
Lecture	60
Laboratory	
Clinic	
Total	60
Credit hours	6
Names of instructors and Departments	Dr. Renate Eigenbrod, Faculty of Arts.

iv. Course Outlines

Advanced Head and Neck Anatomy

A series of seminars, demonstrations, and/or dissections designed to: 1) review the structure, function and clinical relationships of selected anatomical structures of head, neck and oral cavity as related to craniofacial treatment; 2) review craniofacial embryology with special emphasis on the face, palate, cranial base and temporomandibular joint; 3) describe advanced research techniques (anatomical or otherwise) and their applications; 4) describe the anatomical basis of various craniofacial treatments; 5) review of the basic principles of microscopic anatomy and neuroanatomy; and 6) describe oro-facial neurology and its application to craniofacial treatment. *Dr. Elliott Scott will conduct this course.*

Advanced Oral Pathology

The four major etiopathogenic categories of diseases affecting the oral and paraoral structures are discussed with emphasis on common conditions and entities significant to various dental specialties. Lectures cover epidemiology, clinical/laboratory features, and management principles with supplementation by seminars and laboratories. *Dr. S. Ahing will conduct this course through lectures and seminars.*

Pharmacology and Therapeutics

A combined lecture and seminar course on the pharmacological basis of therapeutics including the mechanism and the biochemistry of drug treatment. Special attention will be paid to drugs commonly used in the practice of dentistry, their side effects and their interaction. *Dr. Archibald McNicol will conduct this course through a series of lectures and seminars.*

Clinical Craniofacial Growth and Development/Orthopedics

A program of student based seminars on morphogenesis of craniofacial structures and their significance to clinical problems. Embryology and genetics emphasizing the developing head and neck, craniofacial anomalies and diseases, laboratory evaluation methods, and management of genetic diseases. Problems affecting orofacial esthetics, form, and function. Theories of growth mechanisms, normal and abnormal dentofacial growth and development, indications and contraindications for extraction and non-extraction therapy, growth modification, dental compensation for skeletal problems, growth prediction, and correction of biomechanical abnormalities. Normal language development. Anatomy and physiology of articulation and normal articulation development, causes of defective articulation with emphasis on oral anomalies, craniofacial anomalies, dental or occlusal abnormalities, and velopharyngeal insufficiency. This course will include diagnosis, treatment planning as well as the biomechanics of correcting abnormalities. *Drs. C. Birek, W. Wiltshire and C. Lekic will conduct this course through clinical work, lectures and seminars.*

Hospital Pediatric Dentistry I

A review of pediatric patients with developmental disabilities, language delays/disorders, genetic/metabolic disorders, infectious disease, cancer, and sensory impairments. Prevention and management of medical emergencies in the dental setting and alternatives in the delivery of dental care for medically compromised patients. Pediatric medicine rotation in the Emergency

Department is an experience beyond regular dental emergency duties. During this time residents will be scheduled for a cardiology rotation at the pediatric cardiology ward. Another important element is dental care in the hospital-based operating room setting performed under general anesthesia. This includes pre-operative workup and assessment, medical risk assessment, admitting procedures, informed consent, and intra-operative management including completion of dental procedures, post-operative care, discharge and follow up and completion of the medical records. *Drs. K. Gamboa, C. Lekic, D. Brothwell, M. Tenenbein, will conduct this course through clinical work, lectures and seminars.*

Hospital Pediatric dentistry II

This course is a continuation of hospital pediatric dentistry care that will include more independent intra-operative management, completion of complex dental procedures, post-operative care, discharge and follow up and completion of the medical records. Rotation through the anesthesiology department for management of children and adolescents undergoing general anesthesia will include pre-operative evaluation, risk assessment, assessing the effects of pharmacologic agents, venipuncture techniques, airway management, general anesthetic induction and intubation, administration of anesthetic agents, patient monitoring, prevention and management of anesthetic emergencies, recovery room management, postoperative appraisal and follow up. *Drs. K. Gamboa, G. Ramirez, C. Lekic, H. Reimer will conduct this course through clinical work, lectures and seminars.*

Management & Restorative Treatment of Pediatric Patients I

The principles and theories of child development and age-appropriate behavior responses in the dental setting. Child management in the dental setting and the objectives of various management methods as well as communication skills, physical restraints, and pharmacological techniques. Principles of informed consent, objectives of anxiety and pain control, conscious sedation, deep sedation and general anesthesia as behavior management techniques including indications and contraindications for their use. Radiology and radiation hygiene; taking, processing and interpreting radiographs and obtaining and presenting comprehensive treatment plans. Restorative and prosthetic techniques and materials for the primary, mixed and permanent dentitions will also be included in this course. *Drs. T. Bonstein, G. Ramirez, C. Lekic, K. Gamboa, will conduct this course through clinical work, lectures, case presentations, and seminars.*

Management & Restorative Treatment of Pediatric Patients II

This course will include continued management and restorative care of more complex pediatric dentistry procedures. Pulp histology and pathology in primary and young permanent teeth and the indications and rationale for various types of indirect and direct pulp therapies, pulpotomies, root canal treatments and apexification methods. Biology of periodontal tissues, assessment of periodontal health and the provision of periodontal care to pediatric patients. The design, implementation, and management of a contemporary practice of Pediatric Dentistry, emphasizing business skills for proper and efficient practice, jurisprudence and risk management, use of computers in didactic, clinical and research endeavors, as well as in practice management and biomedical ethics. *Drs. D. Bruckner, G. Ramirez, C. Lekic, I. Pesin K. Gamboa, will conduct this course through clinical work, lectures, case presentations, and seminars.*

Preventive and Community Pediatric Dentistry

Virology, immunology and cariology. Prevention and treatment of dental caries, periodontal and pulpal diseases, traumatic injuries, and developmental anomalies emphasizing prenatal and neonatal care, infant oral health care, and the effects of proper nutrition, fluoride therapy and sealants in the prevention of oral disease. Application of preventive methods particularly principles, techniques and treatment planning for the prevention of oral diseases. Intervention strategies needed to identify problems in their earliest stages and educate families, especially in Northern communities, on the importance of disease prevention and oral health promotion. *Drs. N. Bhullar, D. Brothwell, A. Iacopino, S. Gelskey, O. Odum and C. Lekic will conduct this course through lectures and seminars.*

Special Needs and Emergency Care in Pediatric Patients

Management of the oral health of patients with special health care needs involving multidisciplinary team service. Commonly used drugs in Pediatric Dentistry, their side effects, and their interactions. Diagnosis and treatment of traumatic injuries of the oral and perioral structures including evaluation and treatment of traumatic injuries to the primary, mixed and permanent dentitions; repositioning, replantation, and stabilization of intruded, extruded, luxated, and avulsed teeth; evaluation, diagnosis, and management of the pulpal, periodontal and associated soft tissues in traumatic injuries; recognition of injuries including fractures of the maxilla and mandible with referral for treatment by the appropriate specialist. Recognition, referral and treatment of child abuse and neglect as well as periodontal diseases of childhood and adolescence. *Drs. G. Ramirez, G. Nogueira, A. Stoykewych, K. Gamboa and C. Lekic will conduct this course through lectures, case presentations, and seminars.*

Biostatistics I

An introduction to statistical ideas and techniques for health sciences research. The description of data. Patterns in data, the normal, binomial, and Poisson distributions. Principles of estimation. Principles of hypothesis testing. The major statistical tests (t tests, analysis of variance, chi squared tests, correlation and regression). *Dr. T. Hassard is the Director for this course.*

Preventive Programs in Pediatric Dentistry

Examinations, data collection, and analysis of children's oral health. Health promotion, evidence-based dentistry, assessing scientific literature and designing comprehensive community-based children's oral healthcare programs. These programs will be presented to the local health care forum and at scientific meetings. The project is to be completed as a research paper. *Prof. L. MacDonald, Drs. D. Brothwell, O. Odum, R. Schroth, K. Gamboa and C. Lekic will conduct this course through lectures and seminars.*

The Native Peoples of Canada

A survey of the political, social, and economic situations of the contemporary Indian, Métis, and Inuit peoples of Canada. *Dr. Renate Eigenbrod is the Director for this course.*

Note that:

- a) Residents will be involved in undergraduate teaching. First year residents will instruct second year dental students in the Pediatric Dentistry lab course given during the second

term. Second year residents will instruct third and fourth year dental student in the Pediatric Dentistry clinical course. Residents will provide teaching experiences to students one clinical/lab session a week.

b) Residents will, on a rotation basis, observe the clinical and operating room work of pediatric dentists with the teaching privileges.

c) Instructors from the University of Manitoba will teach the majority of courses (by departmental membership, adjunct membership, or recommendation of the program director). However, the program director may invite guest lecturers from other universities to teach parts of some courses.

d) Seminars will be used as a valuable teaching format. They are to promote group discussions and will be used on a regular basis particularly for research and clinical presentations. They will provide students with additional opportunities to develop communication skills and to explore methodology and issues with their colleagues and faculty members involved in the proposed program. Seminars will also provide students with an opportunity to build mentor relationships with faculty members and strengthen relationships with their colleagues in the program.

v. Program Timetable (see Appendix 4)

<u>Year</u>	<u>Term 1</u>	<u>Term 2</u>
1	Advanced Head and Neck Anatomy (3h) Advanced Oral Pathology alternating (3h) with Pharmacology and Therapeutics every second year Hospital Pediatric Dentistry I (3h) Preventive and Community Pediatric Dentistry (3h) Management & Restorative Treatment of Pediatric Patients I (3h)	Hospital Pediatric Dentistry I (3h) Management & Restorative Treatment of Pediatric Patients I (3h) Special Needs and Emergency Care in Pediatric Patients (3h) Clinical Craniofacial Growth and Development/Orthopedics (3h)
2	The Native Peoples of Canada (3h) Hospital Pediatric Dentistry II (3h) Management & Restorative Treatment of Pediatric Patients II (3h) Preventive Programs in Pediatric Dentistry (3h)	The Native Peoples of Canada (3h) Biostatistics I (3h) Hospital Pediatric Dentistry II (3h) Management & Restorative Treatment of Pediatric Patients II (3h) Thesis research
3	1 elective courses (3 h) 1 elective distance education course (3h) Thesis research	1 elective course (3h) Thesis research Thesis defence

vi. Ability to Transfer Courses to the Program

The Pediatric Dentistry Graduate Program Committee will consider on a case-by-case basis the appropriateness of transferring credits from previous graduate courses to this program (see Admission Requirements).

vii. Completion of the Fellowship Exam

Students will be encouraged to proceed with the Fellowship Exam from the Royal College of Dentists of Canada and/or the American Board of Pediatric Dentistry.

viii. Credentials

Graduates of the program will be granted a Masters in Dentistry (M. Dent.) with a specialization in Pediatric Dentistry.

ix. Projected Enrolment

Enrolment for the graduate program in Pediatric Dentistry will be two full-time students per year. Students will have a time limit of four years for the specialty program to complete all requirements. Students will normally complete the proposed program in three years. Students requiring additional time will be expected to comply with extension policies outlined in the Faculty of Graduate Studies regulations.

x. Distance Education

Courses that are available through distance education would be very helpful with regard to accommodating the very busy clinical schedules and unique clinical demands of the proposed program. Thus, distance approaches will be incorporated as they become available. For example, two of the elective courses (SWRK 2080 and FMLY 2350) are already available in distance format and efforts in collaboration with Extended Education will continue to increase the number of courses available in online or blended formats.

xi. Schedule for Implementation

It is intended that the program will commence in July 2010.

EVALUATION PROCEDURES

i. Resident Evaluation

A system of ongoing evaluation and advancement will be conducted through the program director and results approved by the Pediatric Dentistry Graduate Program Committee. This will include:

1.
 - a. At least semiannual evaluation of the knowledge, skills and professional growth of residents using appropriate written criteria and procedures (i.e., exams, structured interviews)
 - b. At least semiannual assessment of clinical competencies
 - c. Competency-based evaluation of readiness for advancement
 - d. Detailed records of evaluation accessible and available for review
2. An external examiner to assess the progress of second year residents and, thus, indirectly the program. A three-hour clinical session is to be allotted to each graduate student during which time several of their patients will be appointed. External examiners are to provide an independent assessment of the student's overall ability and what the program is offering the students.

Note: The intent is that the resident evaluations are recorded and available in written form. This evaluation will be documented in writing and shared with the resident.

ii. Patient Care Evaluation

The objective of patient care evaluation is to provide appropriate care to patients as well as to provide proper learning experiences to residents. During the provision of care to patients, residents will be supervised by the clinical instructor. At the same time, every procedure will be entered in the patient chart and in the computer software. The charts will be signed by the instructor whereas the information entered in the computer will be verified by the instructor with the swiping teaching card. Note that at all times there will be one instructor supervising, at maximum, four residents in the clinic.

iii. Record Data and Evaluation

The patient record system will include appropriate dates, signature and authorization, medical and dental histories, results of examinations, diagnostic aids, record of radiographic procedures, consultations, diagnosis/problem list, integrated and comprehensive treatment planning (including estimated fee) details of treatment entered, cost, completion, review and follow-up procedures. Residents will be evaluated on the accuracy and completeness of their record-keeping. Residents will be part of the clinical audit and the re-evaluation of the provision of care to patients.

iv. Program Evaluation

Residents will be evaluating the instructors after every clinical or didactic session. The evaluation forms will be prepared in a menu format and completed anonymously. The Program Director and the Pediatric Dentistry Graduate Program Committee will be evaluating these forms and when necessary, addressing the concerns accordingly. Residents will also provide an anonymous assessment of the program, at the end of each term, using similar evaluation forms.

J. CLINIC ADMINISTRATION

i. Clinic Operations

The Program Director will be responsible for patient relations, clinical care and clinic administration of the graduate pediatric dental clinic. The Director will have access to relevant faculty decision-making groups and appropriate committee appointments as well as having effective working relationships with other administrators.

The Program Director shall also be the supervisor of clinic operations including:

- overseeing the distribution of patients for residents
- allocating operating room time for residents and attendings
- supervising the clinic staff
- determining fees/fee delinquency
- overseeing stock control
- overseeing chart management
- dealing with resident/patient/support staff concerns
- determining the clinical timetable
- keeping track of clinic revenues
- recruiting clinical staff
- ensuring diversity of clinical techniques and philosophies
- meets with company representatives

Patient treatment records will be comprehensive and adequate for teaching purposes and consent forms will include a statement that charts may be used for scientific research, administrative and teaching purposes.

ii. Health and Safety Provisions

We will have in place written policies and procedures relating to quality assurance to ensure the safe use of ionizing radiation and to be compliant with applicable regulations for radiation hygiene and protection. We will also have in place the mechanisms to monitor compliance of these policies and protocols by faculty members, staff and students. Notably, the design and construction of radiology facilities will provide adequate protection from ionizing radiation for the patient, operator and others in close proximity and shall be in compliance with provincial and federal regulations relating to radiation protection. There will also be an identified radiation protection officer to guarantee the quality assurance and facilitate daily monitoring of radiographic quality.

Note that radiographs will be prescribed according to the specific needs of the patient taking into account the existence of any current radiographs. Radiographs shall be exposed solely for diagnostic purposes, not to achieve instructional objectives.

Fire and Safety Procedures, Hazardous Materials and Waste Management, Infection Control and Medical Emergency Procedures there will be in place (see appendix 5). Such policies and/or protocols will be consistent with related elements of the didactic program, related regulations, legislation and bylaws of the Faculty of Dentistry and the University of Manitoba. Mechanisms will also be in place to monitor compliance of these policies and protocols by faculty members, staff and students.

Residents, faculty members and appropriate staff will be encouraged to be immunized against and/or tested for infectious diseases, such as mumps, measles, rubella, tuberculosis and hepatitis B prior to contact with patients and/or infectious objects or materials in an effort to minimize the risk to patients and dental personnel (see appendix 5). The program will implement policies and procedures related to individuals who have bloodborne infectious diseases (see appendix 5). Overall, all individuals who provide patient care will follow standards of risk management.

All staff in the Faculty as well as residents and clinical support staff will be required to be Basic Life Support certified. Copies of the certification are kept in each person's personal file. Copies will be available for inspection on site.

iii. Patient Care and Quality Assurance

Comprehensive audit of patient care will be conducted once a year. The following is a list of items that will be part of the audit:

- 1) Signed and approved treatment plan
- 2) Fully filled out comprehensive exam form signed by the supervising instructor
- 3) Daily treatment record
- 4) All required other documentation as per the Graduate Student Handbook (e.g., patient consent forms, medical history etc.), patients also complete a satisfaction survey.
 - a) Collection of Patient Fees – Once a patient is accepted for treatment in the graduate pediatric dental clinic, a statement will be given to the parent outlining the financial contract as well as requesting the signed consent for the treatment
 - b) Confidentiality of Patient Information – residents and staff are required to sign a pledge of confidentiality
 - c) Consultative Protocols
 - d) Informed Consent
 - e) Patient Assignment – Program Director
 - f) Patient Continuing and Recall Care
 - g) Patient Records

Patients are assigned to each resident by the Program Director under the supervision of an instructor. Each student is assigned as wide a variety of treatment needs possible. The resident has the primary ethical, moral and professional responsibility and is held accountable for the patient's total care.

Each patient assigned to a graduate student will receive an update comprehensive treatment plan which will be evaluated, modified and approved by the supervising instructor. Patient treatment plans may be presented to other residents upon the recommendation of the supervising instructor.

Comprehensive audits will be undertaken once a year. Patients/parents will also be asked to complete the satisfaction survey. Instructors will be reviewing patient's ongoing care at the chairside. Transfer of reports will be required when patients are assigned to new residents.

Patient review is instructor-based, resident-based and peer-reviewed at progress stage and re-treatments will be undertaken, if necessary at reduced or no cost.

Adverse or ineffective outcomes will be discussed with the instructor or during peer-review and alternatives suggested or undertaken (e.g., endodontic treatment, extractions etc) following re-evaluation of the case with instructor guidance.

In order to ensure that the student educational requirements are beneficial for the health and care of patients the following will be in place:

- Treatment planning under the supervision of a licensed pediatric dentist to determine benefits of the treatment and its progress
- Review of treatment completion
- Review of allergies and current medications including prescribed, over the counter, and herbal remedies at each patient visit
- Transfer reports
- Cases presented in 2nd year
- Interdisciplinary treatment modalities as required and interdisciplinary seminars with oral surgeons, as well as periodontists, endodontists etc.

PREPARATION FOR CLINICAL PRACTICE

The program is designed for the graduate to be capable of meeting pediatric dental health needs of the public as well as in providing preventative and therapeutic pediatric dental care to patients from underserved and disadvantaged communities. The resident will be provided with sufficient opportunities for achieving competencies in pediatric dentistry. The graduate clinic will be located in the core area of the city with the highest prevalence of dental diseases and because it is part of the Children's Hospital will assure a sufficient supply of pediatric dental patients including those with special health care needs. The proposed program will have close contacts with other dental and medical specialty programs and thus enable our residents to develop and implement integrated treatment plans for comprehensive patient care, including consultations with other specialists.

The program will have a continuous evaluation system in order to meet its goals and this assessment will be used as an important tool in meeting and enhancing student achievements (see Section Evaluation procedures).

L. LEARNING RESOURCES

This program will be linked with the Neil John Maclean Health Science Library located on the same campus. The library is connected to the Faculty of Dentistry and the Pediatric Dentistry Graduate Clinic and is open during evening hours, Saturdays and Sundays. Reference material will be readily available to the residents in the library as well as in the graduate clinic and the laboratory, as indicated in the library support statement (see appendix 2). This library is also capable of providing the use of audiovisual material and modern techniques of information transfer and will further encourage and promote awareness of materials available for use to residents, staff and faculty.

M. STUDENT AFFAIRS

Residents will be encouraged to express their concerns to the Program Director with regard to academic and general matters and/or to the graduate clinic supervisor. The Program Director will maintain an open door policy with regard to the residents, maintain records of comments and/or complaints, and advise residents how to access potential appeal procedures through the Faculty of Graduate Studies. Residents will also be encouraged to evaluate every clinical and didactic session and conduct anonymous term evaluation of the program (see I. Evaluation Procedures).

Residents will have representation on the appropriate committees including the Pediatric Dentistry Graduate Program Committee. Adequate measures will be in place to ensure fair judgment of the resident's achievements regarding the requirements and the successful completion of the program. The program will follow the policy of the Faculty of Graduate Studies with regard to the due process for all individuals with any grievance or concerns.

Counseling services will also be available through the Faculty of Graduate Studies, the Graduate Student Association Office, and through the Student Mental Health Services.

Residents will be encouraged to participate in provincial and national professional organizations and related meetings. The program will provide financial and supplementary support for these activities as well as resident involvement in research, scientific conferences and continuing education courses.

N. RELATIONSHIP WITH DMD, DENTAL HYGIENE AND OTHER HEALTH SCIENCES PROGRAMS

The proposed pediatric dentistry graduate program will be closely linked with other undergraduate DMD programs, especially with the undergraduate pediatric dentistry and orthodontic programs. Residents will provide learning experiences in the undergraduate pediatric dentistry and interceptive orthodontic clinics. The pediatric dentistry graduate clinic will be available to dental, dental hygiene and medical students for the rotations.

This program will be opened to the Faculty of Nursing and will offer participation to these students in the preventative programs, designed to improve the provision of care for the children from the underserved/disadvantaged communities.

There will also be a strong link between the pediatric dentistry and the orthodontic, oral surgery and periodontic graduate programs. A number of joint classes and seminars are envisioned that will enable future the pediatric dental specialist to collaborate with these specialists and to improve the provision of care to their patients.

O. RELATIONSHIP WITH HOSPITAL AND OTHER HEALTH CARE FACILITIES

Residents from the pediatric dentistry graduate program will have the status of stipended post-graduate medical education residents. They will participate in the provision of emergency services at the Children's Hospital and will be on call together with other pediatric residents (see appendix 1). They will provide consultation on the wards of the Children's Hospital and when necessary conduct the treatment for these patients in the nearby pediatric dentistry graduate clinic. Pediatric dentistry residents will also provide dental treatment under general anaesthesia, in Children's Hospital operating rooms.

P. RELATIONSHIP WITH HEALTH DEPARTMENTS AND COMMUNITY SERVICES PROGRAMS

The pediatric dentistry graduate program will have an interactive relationship with community health programs, local and provincial health departments and community service programs. In addition to the links with Community Health Sciences and the Winnipeg Regional Health Authority, this program will be closely related to the existing Aboriginal-focused programs (collaborations with the Faculties of Arts, Extended Education, Human Ecology, Medicine, and Social Work). Notably, the main goal of the advanced education program in Pediatric Dentistry is to prepare future specialists capable of providing both primary and comprehensive preventive and therapeutic oral health care for infants and children through adolescence, including those with special health care needs. However, residents from this program will be trained to provide services in institutional, private, or public health settings and to work in coordination with members of other health care and social disciplines. Upon graduation, specialists from this program will be equally positioned to design effective preventive and public health programs in underserved and disadvantaged communities throughout Manitoba, Canada, and the world. The program will encourage the development of a critical and inquiring attitude that is necessary for the advancement of practice, research, and teaching in Pediatric Dentistry and the provision of care to patients from diverse cultural and social backgrounds.

Winnipeg is a leader in child health care and is the birthplace and/or current home of many national and international organizations in this field. This vision and expertise has facilitated development of many aspects of child health including child oral health. In the province of Manitoba, many programs and clinics have been designed to provide children's dental care (Northern Programs, Winnipeg Regional Health Authority Children's Dental Program, Mt. Carmel Clinic, and Health Action Centre). At the same time, the Faculty of Dentistry, through the Centre for Community Oral Health, has developed several outreach programs providing care to underserved and disadvantaged children of Winnipeg and Manitoba. These programs have a strong community commitment and thousands of children have received dental care at no cost to their parents or society. Undoubtedly, development of the graduate program will only strengthen the Faculty's outreach commitments, improving the learning experiences for our students, while at the same time, providing an important role for the University of Manitoba in health care in the external community.

Q. RELATIONSHIP WITH CONTINUING EDUCATION PROGRAMS

Residents will be encouraged to develop and present material for the continuing dental educational courses. This will be part of the program requirements in order to prepare future specialists to provide improved services to the profession and to prepare them to be involved in the undergraduate and graduate teaching processes.

Faculty of Dentistry, University of Manitoba has a very advanced continuing dental education program and the involvement of pediatric dental residents would be welcomed. Participation of residents in these programs will improve their interaction with the members of the profession as well as their professional standing. There will also be a small financial incentive, in the form of a presentation honorarium.

Note that the topic presentations will have to be approved by the Program Director and the main criteria will be that the topic and the content are reflective of the program guidelines and doctrines.

R. RELATIONSHIP WITH DENTAL ORGANIZATIONS AND REGULATORY AUTHORITY

The pediatric dentistry graduate program will be approved by the regulatory authority for the province of Manitoba (i.e. Manitoba Dental Association, see appendix 1). To further improve professionalism and the opportunity for exchange of information, close links will be established between the residents and the local, provincial and national organisations. Residents will be subscribed to the newsletters/journals from these organisations and any other information of interest, coming from these organisations, will be distributed by the Program Director.

Residents will also be encouraged to accept positions and responsibilities in professional organisations and if necessary the program will try to provide financial support that will enable residents to travel and participate at meetings and/or conferences. At the same time, the pediatric dentistry graduate program will continue to work in a cooperative way with these institutions, particularly in providing preventive and early treatment care to patients from under underserved and disadvantaged communities.

**MASTER OF DENTISTRY-
PEDIATRIC DENTISTRY**

**Faculty of Dentistry
The University of Manitoba**

Proposal Reviewed by:

**Dr. Bryan Tompson
The University of Toronto &
The Hospital for Sick Children,
Toronto, Ontario**

**Dr. Douglas Johnston
BC Children's Hospital &
The University of British Columbia
Vancouver, BC**

July, 2009

The authors of the Review Committee wish to thank the University of Manitoba, Faculty of Dentistry, for the opportunity to review the proposal for the specialty program in pediatric dentistry that includes a Master of Dentistry degree.

We had the opportunity to review the report and to interview several faculty members including Drs. Lekic, Hassard, Ramirez, McNicol, Odium, Bhullar, Lobdell, Iacopin, Pesun, Ahing, Scott, Akylcin, Tenenbein, Ross as well as Mss. Watt, Chartier and Ducas.

The Review Committee was asked to report clear recommendations and/or priorities of choice. The headings that are reported on were articulated as:

1. Comparisons with other programs that the reviewers were familiar with
2. Breadth and depth of the curriculum
3. Demand for graduates
4. Excellence of the faculty and breadth of expertise
5. Adequacy of facilities, space and other resources
6. Strengths and weaknesses of the program proposal

1. Comparisons with related programs:

a) University of Toronto (UofT):

This program is focused primarily at the Faculty of Dentistry with rotations to The Hospital for Sick Children, Children's Hospital of Eastern Ontario and Moose Factory. The Moose Factory rotation is not supervised by specialists. There are also rotations to Mt. Sinai Hospital for experience with special needs and geriatric care. There are also rotations to nearby City School Clinics. Degrees earned are Master of Science or PhD which must be completed prior to issuing the diploma in pediatric dentistry. General anesthetic experience is primarily at the Faculty and to a lesser extent The Hospital for Sick Children.

b) University of British Columbia (UBC):

The first year of the graduate program is focused at UBC while the second and third year is at BC Children's Hospital, outreach within disadvantaged areas of Vancouver, the lower eastside, in the community and beyond with faculty appointed specialists. There are also rotations in remote areas of BC such as First Nations care in the Queen Charlotte Islands and Haida Guay. There will also be international rotations to provide care and education in Vietnam, Cambodia, Uganda with BC Children's and to Ethiopia with The Hospital for Sick Children.

General anesthetic exposure will be extensive with upwards of one day per week and no less than one day every other week.

Research time is protected in the schedule with one half day in first year and one and one half days in second and third years.

There are two streams for Master of Science and PhD, both of which have been budgeted for. There is compensation budgeted to the supervisors of Master of Science and PhD supervisors.

There is unanimous support for the program from the Pediatric Dentists of British Columbia which was voted on in the fall of 2008, as well as letters of support from leading individuals at BC Children's and UBC.

Because of the multi site nature of the program, lectures and seminars will be conducted electronically when necessary.

c) University of Manitoba (UofM):

The specialty program will be hospital based with outreach to aboriginal communities. It is assumed that the outreach will be under the heading of 'The Native Peoples of Canada' and will involve three hours per week in the first and second term of second year.

The timetable that we received is not clear regarding the amount of research time that is protected. Protected time is in the second term of year 2 and both terms of year 3.

General anesthetic exposure at the hospital appears to be one day every three weeks but it was difficult to confirm this in the timetable.

The degree offered is a Master of Dentistry with a diploma in Pediatric Dentistry. Students will be eligible to challenge the Fellowship Examination from the Royal College of Dentists of Canada.

It would appear that there is unfortunately weak support for the program from the dental community of specialists in pediatric dentistry that could in turn make it difficult to obtain part time teachers in clinical pediatric dentistry. There is currently an abundance of 18 pediatric dentists in the Winnipeg area.

2. Breadth and Depth of the Curriculum:

It would appear on paper that the program will provide the required advanced educational experience beyond that of an undergraduate education. The basic clinical and behavioural science instruction are integrated and of sufficient scope, timeliness, quality and emphasis to ensure that graduates will meet the program's stated objectives and outcomes and in doing so will meet the accreditation requirements for a program in pediatric dentistry.

The didactic and clinical courses for the most part address the list of required courses and clinical experiences as outlined in the Commission of Dental Accreditation of Canada for Pediatric Dentistry (November 30, 2008).

Without a detailed time table it was difficult for us to see exactly how the pediatric dental residents will spend their time and how they will integrate with the common graduate courses that already exist and taken by other graduate residents.

3. Demand for Pediatric Dentists:

There is currently a high demand for pediatric dentists in the country with the exception of downtown Vancouver and Winnipeg.

If first nations and international students can be attracted into the program, they may migrate to aboriginal areas in need within the province. This may require financial stimulus from the province because thus far none of the pediatric dentists in the province are traveling to remote areas to meet the needs of the population.

4. Excellence of the faculty and breadth of expertise:

We were provided with curriculum vitae and had the pleasure of interviewing members of faculty that were eluded to earlier. Every one of the staff interviewed was committed to the proposed program and were keen to provide teaching via lecture, seminar or as research supervisor.

CVs for the staff were rich in breadth of expertise and were all excellent. The most recent staff member is working very hard and has some papers at various stages of acceptance and printing. This individual has also received a teaching award for excellence.

There will also be part time staff needed to contribute to the program's clinical component and these will come from I assume the community of pediatric dentists in Winnipeg.

5. Adequacy of facilities, space and other resources:

a) Facilities:

The hospital clinic which will be the clinical focus for the program is currently under construction for a new central air conditioning unit. The current clinic is quite old and is in need of rehabilitation. We were told that clinic renovations will not proceed if the grad proposal is not approved.

b) Space:

The geographical space in the clinic seems adequate for clinical care. Because there was not a detailed timetable provided, it is not possible to know how many students might be treating patients at any one time. In the clinic design provided, there is no office space for staff and students and space at the faculty might be required. The current facility has sterilization issues that we understand were articulated in the last accreditation review. There is overcrowding of staff and insufficient waiting room space.

Discussion ensued regarding the space plan and the following suggestions were articulated. We suggest eliminating the quiet room and the sterilization room, turning them both into office space. We also suggested moving the CLP and the craniofacial coordinators out of the department and move them across the hall from Dr. Ross (GC 407) into space that is going to be vacated by vascular surgery.

c) Other Resources:

The planned stipend is not in the budget and it was not clear if it was solidly funded. Kathy Watt is concerned about the additional workload and whether or not she would be able to provide the same level of service that people have become accustomed to. The surveyors were told of budget expectations from the province with three million dollars required the first year, then one million per year thereafter.

6. Strengths and Weaknesses of the Proposal:

a) Strengths:

- All faculty members seem very cooperative and supportive
- The present administrative staff are excellent
- The administrative staff realize there is more work but they are very supportive
- The author(s) of the proposal appear to have addressed the didactic and clinical requirements to meet accreditation requirements and to mount an excellent program

b) Weaknesses:

- The financial projections of the budget need to be more transparent such as the clinic income. We were provided with a calculation of revenue from clinical activities at a rate of \$1,500 per day X 4 days a week X 44 weeks for one student in first year. Other formulae were applied for second and third year. It appears that there will be little time for academic and research activities to provide this amount of clinic time
- The source of revenue for the stipend is not confirmed and should appear in the budget as a revenue then expense. At a cost of \$50K per resident, the potential liability would be \$300K annually by the third year of the program
- We recommend that the timetable be done in detail so it is clear to the reader how much time is spent in seminars, lectures, clinic, OR and protected time for research and thesis writing
- The length of the terms is not specified as well as summer holidays. This would be helpful
- Space requirements for the program were not addressed in the clinic design. Residents and support staff need office space and potential changes to the proposed design were eluded to earlier in the report
- The cost of clinic redevelopment was stated in the document to be \$650K but it would be closer to \$1.1 million
- Salary lines for the three academic positions should be established and if the salary line from Oral Biology was moved over the bottom line for the program would look better
- Would the first year budget in the second year of the program be more balanced than the inaugural year. If so it would be helpful to add a second column for first year
- Potential funding from the Regional Health Authority needs to be explained and confirmed in writing for the security of the program over the long term

Signed: Dr. Byran Tompson _____

Dr. Doug Johnston _____

Response to External Review

We wish to thank the external reviewers for their thoughtful suggestions and recommendations for clarification of some important aspects to the proposal for a new graduate program in Pediatric Dentistry at the University of Manitoba Faculty of Dentistry. We have attached a revised proposal, documentation regarding University approved plans for space renovation, letters of support from specialists in the community who have volunteered to be part-time clinical instructors, and a letter from the WRHA outlining their commitments and support for the new program. The revised proposal contains the following new items and/or addresses the following specific concerns raised during the external review:

- 1) A detailed timetable for the residents now appears beginning on page 65. This provides a detailed accounting of the length of academic terms, how the residents will be able to complete all the required coursework/seminars, clinical training, and research aspects of the program. Protected research time is provided, the general anesthesia training sessions are listed, and one can see how many residents will be treating patients in the clinical areas at any one time.
- 2) While it is true that there is not unanimous support for the program from the pediatric dentistry community in Winnipeg, there is still plenty of support for the program. It may be that the reviewers spoke with one or more of the "non-supporters" during the site visit. We have three full-time instructors assigned to this program and have included four support letters from community specialists who are strong supporters of the program and who have volunteered to be part-time clinical instructors. This complement of teaching staff would provide the proposed Pediatric Graduate program with more instructor FTEs than any other specialty graduate program currently operating at the Faculty of Dentistry.
- 3) We have included email documentation of a University approved plan for space renovations and a sterilization upgrade that address office space for instructors and residents as well as adequate support for clinical care. Additionally, a letter from the WRHA has been included that clearly states their commitment and intent to facilitate the required space and renovation plans as well as to provide funding for support staff, facilities maintenance, and resident stipends. The letter also confirms that the renovation process has already begun. This will allow us to continue to move forward with space renovations that incorporate the suggestions of the external reviewers. This includes refinement of the clinic floor plan as well as additional office and classroom space on the fourth floor of the dental school building.
- 4) A revised budget now appears on page 19. There was much confusion with regard to the budget during the external review due to the fact that two versions of the budget were circulated (originally submitted and revised version after original proposal submission). An administrative glitch prevented university administrators and external reviewers from receiving only the revised version for discussion during the external review. Additionally, the rationale for the revised budget was not adequately articulated to the

reviewers during the site visit and the reviewers were obviously provided with some "wild rumors" regarding the budget from at least one of the "non-supporters" they talked with. The revised budget clearly indicates the cost and source of the resident stipends (a solid commitment of the WRHA). The financial projections for clinical income take into account revenue derived from instructor generated billings as well as the various amounts of time residents are treating patients in the clinics; these are conservative estimates to ensure that residents have enough time for academic and research activities. Salary lines for 3 full-time academic positions have already been established within the Faculty (2 of these are "true" lines as 1 is a traditional tenure track position and the other is permanently funded for this program by the WRHA; the other position in question is currently funded on contingency from the dean's office but is scheduled to be shifted to the next available tenure-track position in the Faculty).

- 5) The cost of clinic renovations appears on page 18 of the revised proposal. Again, there was some confusion related to changes that were made to the document after original submission. Due to an oversight, these changes and the rationale for them were not communicated to university administrators and external reviewers prior to the site visit. These changes were due to additional conversations with potential private sector funders and the WRHA as well as a more refined analysis of exactly what would be required for the space renovations. The total cost of clinic redevelopment is \$1-1.2 million. This cost includes the actual space renovation and equipment costs. We have submitted a request to the Winnipeg Foundation for \$500,000 toward the space renovation and have secured a commitment from the WRHA to cover the remainder of those costs in addition to some of the equipment. It is likely that the remainder of the equipment will be donated by industry and/or subsidized by supporters in the practicing community and the Faculty of Dentistry. The 5-year program budget clearly demonstrates significant profitability as early as year two (excess revenue over expenses of at least \$250,000), thus it is not hard to envision how any initial Faculty investments in the program will be recovered.

Report of the Senate Planning and Priorities Committee on the proposal to introduce a Master of Dentistry in Pediatric Dentistry in Faculty of Dentistry

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found on the website at:
http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/508.htm, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.
2. The Programs and Planning Committee of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing new graduate programs and makes recommendations to FGS Council.
3. The FGS Council recommends that Senate approve a Master of Dentistry Program in Pediatric Dentistry in Faculty of Dentistry

Observations

1. The committee noted that this proposed program has been developed to address the unique needs and cultural characteristics of underserved and disadvantaged communities (Aboriginal, rural and urban poor, children who are severely or multiply disabled). The program has been designed to prepare graduates to provide primary, preventive and remedial treatment of oral health care needs of infants, and children through adolescence.
2. In addition, the committee noted that proposed program will require significant start up costs of \$1 million and would require an additional new staff position. The Dean of the Faculty of Dentistry has indicated that half of the funding has been committed and that the Winnipeg Foundation would decide on their commitment at the December Board meeting. The WRHA has currently committed one FTE clinician, clinical support staff, clinical setting, and it is hoped that the Winnipeg Foundation will match these funds. The proposal indicated that the current clinical revenue with one resident in a PGME one year program with a small clinic is \$80,000 revenue; this could be increased to \$900,000 with six residents. It was noted that, even with a calculation on a revised budget having 50% of tuition fees going to the Faculty, this program would still show a profit based on the potential of clinical fees.
3. Further, the committee noted that the program could not be implemented without startup funding. However, the program could be started without startup funding by stringing out the renovations and looking at private interim financing through banks. The committee members expressed concern about borrowing money to start the program as the Faculty of Dentistry has a significant debt load already. The committee was informed that, if the program were approved, the Faculty would negotiate to have the Health Sciences Centre take out the loan for renovations.

4. The Committee noted the Faculty has provided a large number of letters indicating the high level of support for this proposed program. Letters of endorsement were included from the Manitoba Dental Association, all of the departments within the Faculty of Dentistry, the Health Sciences Centre, the Winnipeg Regional Health Authority, the Faculty of Medicine, the Faculty of Human Ecology, the Department of Native Studies, the Faculty of Social Work, the Extended Education Division, and the Commission on Dental Accreditation of Canada.
5. The committee noted that the proposal provided documentation which indicated that the University of Manitoba Libraries staff has reviewed the library resource needs for the proposed program. The Director of Libraries' report indicates that Neil John Maclean Health Sciences Library holdings would be sufficient to meet needs of the proposed Master of Dentistry program in Pediatric Dentistry in Faculty of Dentistry.
6. The Faculty has indicated that there will need to be significant space renovations to provide the necessary clinical laboratory and student instructional space to implement this program. The costs of these renovations have been factored into the startup discussed in item 3 above.

Recommendation

The SPPC recommends THAT:

Senate approve and recommend to the Board of Governors that it approve a Master of Dentistry Program in Pediatric Dentistry in the Faculty of Dentistry. The Senate Committee on Planning and Priorities recommends that the Vice-President (Academic) not implement the program until satisfied that there would be sufficient space and funding including all funding indicated in the proposal to support the ongoing operation of the program.

Respectfully submitted,

James Blatz, Chair
Senate Planning and Priorities Committee

Faculty of Arts
University of Manitoba
Proposal for a Bachelor of Arts Integrated Studies

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

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SECTION I: Program Description

1.1 Description of the program as it would appear in a catalogue

The Bachelor of Arts Integrated Studies is a three-year degree program offered by the Faculty of Arts in collaboration with Extended Education. The program is geared to serve working adults who have completed some post secondary education. The degree requires areas of concentration rather than the traditional major/minor requirement, providing a more flexible path for degree completion but also ensuring academic rigor (e.g., appropriate writing and quantitative skills, breadth requirements, and an appropriate percentage of upper level courses).

The degree will formally recognize the education completed by certificate or diploma holders. In addition to a flexible curriculum model (e.g., concentrations of study rather than the traditional major/minor approach) the program will provide flexible course scheduling suitable for working adults. Hence, variable modes of delivery (e.g., blended, online, videoconference, weekend/evening) would be incorporated as needed.

1.2 Program educational objectives and learning outcomes

The BA Integrated Studies would meet a critical need in Manitoba, build on existing areas of strength, and move the institution in directions identified as priorities. See Section 1.4 *Program fit with institutional mission and planning priorities*. The Bachelor of Arts Integrated Studies would provide a program in which working adults can complete an undergraduate degree that recognizes their prior post-secondary education and experience, and that provides purposeful scheduling of offerings and individualized academic planning. By increasing the pool of motivated adult learners seeking a university degree and retaining students in certificate and diploma programs for more advanced study, we underscore the value of the University education. Employers in the private and public sectors with whom we worked closely in developing the new degree program have identified the values of the degree as enhancing career opportunities and progression for employees notwithstanding the social and economic benefits of an educated workforce locally, nationally and internationally. The Bachelor of Arts Integrated Studies will provide a flexible, yet rigorous liberal arts education that permits students to select broadly across Faculty, School, and disciplinary boundaries and to ladder previous certificate and program credentials towards B. A. completion.

1.3 Program Requirements

1.3.1 Admission Requirements and Comparison of Admission Requirements between General and BA Integrated Studies

Students must complete one of the following:

- a) University of Manitoba Certificate in Financial and Management Accounting (FMA)
- b) University of Manitoba Certificate Program in Human Resources Management (HRM)
- c) University of Manitoba Certificate in Adult and Continuing Education (CACE)
- d) Canadian Institute of Management Certificate Program in Management and Administration (CIM) from any accredited post-secondary institution
- e) University of Manitoba diploma program (as defined by the Non-Degree Program Taxonomy approved by Senate) or a diploma completed at any accredited post-secondary institution
- f) Successful completion of a minimum of 24 credit hours of university level course work

Students must also submit:

- A resumé providing evidence of normally three (3) years of full-time workplace experience (i.e., ≥ 30 hours/week) preferably with the same employer. [Applicants who do not strictly fall into this definition of workplace experience may request special consideration from the B.A. Integrated Studies admissions committee.]
- Two letters of support (normally one must be from the current or most recent employer). [Applicants who are unable to supply the two letters of support as stipulated may request special consideration from the B.A. Integrated Studies Admissions Committee to consider alternate sources of letters of support.]
- A letter of intent. The letter of intent must include the applicant's rationale and suitability to enter the program. For example, why has the applicant chosen this program instead of other degree programs at the University of Manitoba? Why does the applicant see a good fit between herself/himself and the program? How does the applicant envision successful completion of this degree enhancing her/his career development? The letter of intent and resumé (to be vetted by a Faculty based committee consisting of full-time faculty) must provide evidence of satisfactory writing and problem-solving skills. The faculty based committee to evaluate the admission writing requirement will determine a writing rubric in the near future. The attached sample writing rubric (provided by the Faculty of Education) will be used as a model for discussion, see Appendix 3.

Notes:

- For a) thru e) above, a minimum graduating average of 2.50 or 'C+' is required on the completed certificate or diploma program.
- For f) a minimum of 24 credit hours of university level course work with a minimum cumulative grade point average (cgpa) of 2.00. If cgpa is < 2.00 , but gpa on 24 credit hours ≥ 2.00 , then admission on recommendation of the Dean.
- An interview and assessment of writing and problem-solving skills may be required if the applicant's letter of intent, resumé or both are deemed insufficient. A resumé or letter of intent that demonstrates poor written expression (poor mechanics of writing, inability to support an argument of suitability for the program) will prevent an applicant's acceptance into the program until s/he remediates this problem through completion of workshops through the Learning Assistance Centre. Then an applicant will provide written documentation of successful workshop completion and re-submit his/her application for admission to the program. Lack of focus of goals for degree completion, lack of expressed seriousness of purpose for the degree program and weak letters of support can also provide grounds for an unsuccessful application.

Admission Application Process

- Completion of an application for admission including
 - Official transcript of completed programs or course work
 - Letter of intent (500 to 1000 words)
 - Resumé (including a detailed outline of work experience)
 - Two letters of support (One must be from the current or most recent employer)
- Application deadline is July 2 for a fall admission. All other documentation in support of the application for admission, such as transcripts, course syllabi, etc., must be submitted no later than July 15th for admission in that academic year.

- Application deadline is March 1 for admission for summer session. All other documentation in support of the application for admission must be submitted by April 15.

Admission Conditions

- In determining eligibility for admission the Faculty will consider the completed certificate or diploma programs or 24 credit hours of university level course work as the basis of admission regardless of when the work was completed (e.g., the 10 year rule does not apply).

- An individual who is admitted on the basis of one of the four completed certificate programs or a diploma program will be admitted to the Faculty of Arts as a Regular student providing the certificate or diploma contains a minimum of 24 credit hours of university level course work. If the certificate or diploma program has less than 24 credit hours of university level course work, the applicant must be admissible as a mature student or meet the University of Manitoba regular entrance requirements.

- Students who hold a first degree in Arts may not apply for the B.A. Integrated Studies degree program.

- Students who have completed the B.A. Integrated Studies degree as their first degree may apply to one of the other degree programs offered by the Faculty of Arts seeking a second degree. Such students must submit an application for admission seeking a second degree. All current admissions policies and procedures with respect to those second degree programs will apply. In determining admission to the B.A. General, Advanced and Honours degree programs, any completed certificate/diploma programs will be evaluated for purposes of admission and transfer credit in accordance with the current admission policies and procedures for those programs.

Comparison of Admission Requirements/Policies between B.A. General and B.A. Integrated Studies

Admission Requirements/Policies	B.A. General	B.A. Integrated Studies
1. Basis of Admission	Students must have completed minimum of 24 credit hours of university level course work with a minimum cumulative grade point average (cgpa) of 2.00. If cgpa is < 2.00, but gpa on 24 credit hours \geq 2.00, then admission on recommendation of the Dean.	<ul style="list-style-type: none"> - Completion of one of the following: <ul style="list-style-type: none"> a) University of Manitoba Certificate in Financial and Management Accounting (FMA) b) University of Manitoba Certificate Program in Human Resources Management (HRM) c) University of Manitoba Certificate in Adult and Continuing Education (CACE) d) Canadian Institute of Management Certificate Program in Management and Administration (CIM) from any accredited post-secondary institution e) University of Manitoba diploma program (as defined by the Non-Degree Program Taxonomy approved by Senate) f) successful completion of a minimum of 24 credit hours of university level course work - for a) through e) a minimum graduating average of 2.50 or 'C+' is required on the completed certificate or diploma program - for f) a minimum of 24 credit hours of university level course work with a minimum cumulative grade point average (cgpa) of 2.00. If cgpa is < 2.00, but gpa on 24 credit hours \geq 2.00, then admission on recommendation of the Dean. - normally 3 years full-time workplace experience is required (i.e., \geq 30 hrs/wk) preferably with the same employer - 2 letters of support (one from current or most recent employer) - a resumé and letter of intent (an interview may be required if resumé and letter of intent insufficient)

Admission Requirements/Policies	B.A. General	B.A. Integrated Studies
2. Transfer Credit	All program/courses are evaluated for possible transfer credit subject to the 10 year rule (U of M policy).	<p>- Transfer credit for course work completed in one of the four certificate programs or for a diploma program used as basis of admission will be determined through a course by course articulation process regardless of when courses were taken.</p> <p>- If a student completes more than one certificate program, one certificate will be used as basis on admission notwithstanding the ten year rule. The additional certificates will be evaluated and transfer credit awarded based on a course by course articulation subject to the 10 year rule (see below).</p> <p>- Students who have not completed a certificate program but who apply for admission on the basis of 24 credit hours of university level coursework will be eligible to receive up to 24 hours of transfer credit regardless of when the courses were taken. Coursework completed in excess of 24 credit hours will be considered for further transfer credit on a course by course basis and will be subject to the 10 year rule (see below).</p>
3. Certificate/Diploma Programs at Community Colleges and Junior Colleges	<u>Only</u> courses completed in certificate/diploma programs at community colleges or junior colleges may be used as basis of admission and for possible transfer credit (U of M policy).	No change. Same as B.A. General
4. Certificate Programs completed through divisions of Continuing Education	Faculty Councils approve University of Manitoba certificates (with report to Senate for concurrence prior to implementation). Relevant Faculties articulate transfer of credit. Only courses completed in certificate programs through Continuing Education at University of Manitoba may be used as basis of admission and transfer credit (U of M policy).	<p>Three certificate programs completed through the Division of Continuing Education at the University of Manitoba and the Certificate of Management and Administration (CIM) completed through a division of continuing education at any accredited post-secondary institution will be considered as basis of admission.</p> <p>Additional University of Manitoba certificates will be added to the list of certificates that may be considered for admission as they are evaluated for possible transfer credit.</p>

Admission Requirements/Policies	B.A. General	B.A. Integrated Studies
5. Second Degree Students	Students may apply seeking a 2 nd degree providing 2 nd degree is not in same discipline or major (Faculty of Arts policy).	Students who hold a first degree may not apply for a B.A. Integrated Studies.
6. Ten Year Rule	Courses taken more than 10 years ago are not used as basis for admission and/or transfer credit (Faculty of Arts policy).	The ten year rule will not apply to the certificate/diploma or university level coursework used as basis of admission.
7. Minimum of 'F' and 'D' grades	Students who exceed the maximum number of 'F' and 'D' grades permitted in the degree program are not admissible (Faculty of Arts policy).	Same.

1.3.2 Continuation and Graduation Requirements

Once accepted to the program students will be allowed to continue in the program providing they do not exceed the number of poor grades (i.e., 'F' and 'D' grades) permitted in the program.

Students will be placed on academic suspension if they have more than thirty (30) credit hours of 'F' grades or more than forty-two (42) credit hours of a combination of 'F' and 'D' grades. Following a one year suspension, the student may apply to the Dean's Office to return to the Faculty of Arts by selecting **one** of the following irreversible options:

- a) To continue with no possibility of further 'F' or 'D' grades. A further 'F' or 'D' grade will result in academic suspension for two years. [Students placed on two year suspension may apply to the Dean's Office to start afresh.] OR
- b) To start afresh with their previous course work not counting towards satisfying degree requirements. [In either case, the previous course work will remain on the student's record/transcript.]

Note: Students will be assessed at the end of the academic session. Students in academic jeopardy will be sent warning letters regarding their status in the Faculty.

A minimum degree grade point average of 2.00 is required on the 90 credit hours of passed course work that satisfy all degree requirements.

1.3.3 Program and Course Descriptions

a. Foundation Courses (21 credit hours)

The purpose of these courses is to provide a transition to university level study and a foundation in liberal arts. The core courses are considered to be the foundation courses of the program and provide students with the knowledge and skills for successful participation and mobility in the workforce drawn from the information provided in interviews and focus groups with employers and potential students.

- ❖ ARTS 1110 Introduction to University One (3)
- ❖ EDUC 1560 Adult Learning and Development (3)
- ❖ SWRK 2080 Interpersonal Communication Skills (3) or ENGL 0930 English Composition (3)
- ❖ XXXX Understanding and Using Data (3)
- ❖ ARTS 1160 Leadership: An Interdisciplinary Approach (3)
- ❖ XXXX Introduction to Social Sciences I (3) and II (3) (major concepts in Psychology, Sociology, Anthropology and Political Studies) with the intent that the courses fulfill the prerequisite for upper level courses in Psychology, Sociology, Anthropology and Political Studies.

Note: Until such time that Introduction to Social Science I and II are approved, students will be permitted to substitute six (6) credit hours of 1XXX from the Department of Psychology or Sociology or Anthropology or Political Studies. Similarly until such time as Understanding and Using Data is approved, students will take a three (3) credit hour course that satisfies the 'M' (Mathematics) requirement.

b. Areas of Concentration (18 credit hours)

Any currently available minor program in or approved for credit in the Faculty of Arts will be called a 'concentration' in this program.

Two new concentrations are being developed specifically for this program, in response to the information provided by potential employers and students about appropriate courses for a degree for mid-career working adults and from members of the joint Arts and Extended Education ad hoc Committee to advise the Dean on an Integrated Studies B.A. The proposed new concentrations (to be approved through the normal Faculty of Arts course and program approval process) are called "**Cultural Literacy and Diversity**" and "**The Changing Workplace**".

Additional concentrations may be added in the future through normal Faculty of Arts course and programs approval process.

Students who wish to take additional courses from a second concentration may do so within their elective component. Students who complete the requirements of a second concentration may submit a written request to the Dean's Office to have a second concentration recorded on their transcript.

c. Electives (51 credit hours)

Students must complete 51 credit hours of electives outside the foundation courses and courses used to satisfy an area of concentration.

d. Overview of Degree Requirements

- 21 credit hours of foundation or required courses
- completion of one area of concentration (18 credit hours)
- 51 credit hours of electives outside the foundation courses and area of concentration
- 36 credit hours must be completed at the University of Manitoba to satisfy the degree residency requirement and 9 credit hours of the concentration must be completed at the University of Manitoba to satisfy the concentration residency requirement
- 30 credit hours must be taken from courses taught by the Faculty of Arts (12 credit hours of Mathematics, School of Music or Art History courses may also be used to meet this requirement)
- a minimum of 15 credit hours of course work must be at the 2000 level or higher
- a minimum of 6 credit hours of course work must be at the 3000 level or higher
- 6 credit hours of humanities

- 6 credit hours of social science
- 6 credit hours of courses taught by the Faculty of Science
- Written English and Math requirement (3 credit hours in each)
- 2.00 grade point average on courses satisfying the area of concentration
- 2.00 grade point average on passed courses contributing to the degree
- 3 credit hours in each of 5 different subjects

Note: Some courses may fulfill more than one degree requirement.

e. Comparison of Degree Requirements Between B.A. General Degree and B.A. Integrated Studies

Degree Requirement	B.A. General Degree	B.A. Integrated Studies
1. Total credit hours	90	same
2. Written English and Math	minimum 3 credit hours in each	same
3. Humanities	6 credit hours	same
4. Social Sciences	6 credit hours	same
5. Courses taught by the Faculty of Science	6 credit hours	same
6. Graduation grade point average	2.00 grade point average on 90 credit hours of passed coursework offered for degree credit	same
7. Academic Standing Rules	<p>5.12 Maximum Number of "F" and "D" Grades Permitted on Courses Acceptable for Credit in Arts.</p> <p>Each student in the Faculty of Arts will be placed on academic suspension if they have more than 30 credit hours of "F" grades, or more than 42 credit hours of a combination of "F" and "D" grades.</p> <p>Following the one year suspension, the student may apply to the Dean's Office to return to the Faculty by selecting one of the following irreversible options:</p> <p>(a) to continue with no possibility of further "F" or "D" grades. Any further "F" or "D" grades will result in academic suspension for two years. (Following the two year suspension, the student may apply to the Dean's Office to return to start afresh.)</p>	Same

Degree Requirement	B.A. General Degree	B.A. Integrated Studies
7. Academic Standing Rules (continued)	Or (b) to start afresh, with their previous work not counting towards satisfying degree requirements. (In either case this does not mean that the previous coursework will be removed from the student history or transcript.)	same
8. Distribution requirement	6 credit hours in each of 5 subject areas (e.g., 6 credit hours Psychology, 6 credit hours Economics, 6 credit hours Computer Science, 6 credit hours French, 6 credit hours Mathematics)	3 credit hours in each of 5 subject areas (e.g., 3 credit hours Psychology, 3 credit hours Economics, 3 credit hours Computer Science, 3 credit hours French, 3 credit hours Mathematics)
9. Major	30 credit hours	No major required; students complete 21 credit hours of the following required (foundation) courses: - ARTS 1110 Introduction to University (3) (Integrated Studies Section) - EDUC 1560 Adult Learning and Development (3) - SWRK 2080 Interpersonal Communication Skills (3) <u>or</u> ENGL 0930 English Composition (3) - XXX Understanding and Using Data (3) ² - ARTS 1160 Leadership: An Interdisciplinary Approach (3) - XXX Introduction to Social Science I and II (3) + (3) major concepts in Psychology, Sociology, Anthropology and Political Studies) with the intent that these courses fulfill the prerequisite for upper level courses in Psychology, Sociology, Anthropology and Political Studies ²
10. Minor	18 credit hours except when major is Global Political Economy	Same but called a "Concentration". Other non-minors may also serve as concentrations ¹ .
11. Options or Electives	- minimum of 30 credit hours outside the student's chosen major and minor - minimum of 12 credit hours in area of choice	minimum of 51 credit hours beyond the required (foundation) courses and must be outside the "concentration"

Degree Requirement	B.A. General Degree	B.A. Integrated Studies
12. Minimum credit hours at the 2000 level or higher	30 credit hours	15 credit hours @ 2000 level or higher plus 6 credit hours at 3000 level or higher
13. Minimum credit hours taught by the Faculty of Arts	60 credit hours (may include 24 credit hours of Mathematics, School of Music or Art History courses)	30 credit hours (may include 12 credit hours of Mathematics, School of Music or Art History courses)
14. Minimum grade point average	2.00 grade point average on courses taken for purpose of satisfying the major	2.00 grade point average on courses taken for purposes of satisfying the "Concentration"
15. Residency Requirement (i.e., courses taken at the University of Manitoba)	For Degree: 48 credit hours or the final 30 credit hours For Major: 18 credit hours	For Degree: 36 credit hours For Concentration: 9 credit hours

¹ Other concentrations may include thematic clusters of courses, such as "The Changing Workplace" and "Cultural Literacy and Diversity".

² New courses to be approved through the normal Faculty of Arts course and programs approval process. Until such time that two new courses called Introduction to Social Sciences I and II are approved, students will be permitted to substitute 6 credits of 1XXX from the Department of Psychology or Sociology or Anthropology or Political Studies. Similarly until such time as Understanding and Using Data is approved, students will take a three (3) credit hour course that satisfies the 'M' (mathematics) requirement.

f. Existing Foundation Course Descriptions

ANTH 1210 Human Origins and Antiquity (A) Cr. Hrs.3 (Formerly 076.121) An introduction to physical anthropology and archaeology. Topics include: biological evolution, evolution and comparative behaviour of primates, fossil evidence for human evolution, and the emergence of human culture. Students may not hold credit for ANTH 1210 (076.121) and any of: ANTH 1211 (076.121) or the former 076.120.

ANTH 1220 Cultural Anthropology (A) Cr.Hrs.3 (Formerly 076.122) The comparative study of human societies and cultures, including language, economic and political organization, family and kinship, ritual and belief systems, cultural stability and change. Students may not hold credit for ANTH 1220 (076.122) and any of: ANTH 1221 (076.122) or ANTH 1520 (076.152) or the former 076.120.

ARTS 1110 Introduction to University Cr.Hrs.3 (Formerly 099.111) A seminar course designed to help students make the transition from high school to university by imparting the knowledge, skills, and attitudes requisite for success in university study. Each section limited to 30 students. Open only to students who have completed less than twelve credit hours. Students may not hold credit for both ARTS 1110 (099.111) and ARTS 1111 (099.111).

EDUA 1560 Adult Learning and Development Cr.Hrs.3 (Formerly 129.156) A study of the extensive knowledge of lifespan development and its importance for adult education and its importance for adult education practitioners. With a focus on development, learning and change, emphasis is placed on the importance of context and individual differences in adult learning.

ENGL 0930 English Composition Cr.Hrs.3 (Formerly 004.093) Designed to help students write better essays. Course focuses on effective expression; sentence, paragraph, and essay construction; and the writing process. A great deal of writing is required; instructors address the particular need of individual students. Student may not enter English courses numbered above the 1000 level directly from this course. This course is not designed to teach English as a second language. This course does not satisfy the Humanities requirement.

SWRK 2080 Interpersonal Communication Skills Cr.Hrs.3 (Formerly 047.208) A basic core of interpersonal skills for communicating effectively and for establishing and maintaining relationships in one-to-one and group situations. Emphasis is on experiential learning using a variety of techniques.

POLS 1000 Democracy and Development Cr.Hrs.3 An examination of development and democracy as desiderata of good societies and an examination of historical conditions in which individual and collective freedom on the one hand, and economic prosperity on the other, have been achieved in the various countries of the world.

POLS 1010 Political Ideas and Ideologies Cr.Hrs.3 Lab required. An introduction to different philosophical systems of political beliefs and values that structure contemporary political discourse and practice.

POLS 1040 Global Political Issues Cr.Hrs.3 Lab required. An investigation of the most pressing global issues facing the world today, including debates over globalization, the rise of trans-sovereign problems, and current theories about the future of the state.

POLS 1070 Law, Politics, and Power in Canada Cr. Hrs.3 Lab required. An introduction to the basic structures and processes of politics, law and power in Canada with the aim of explaining and assessing contemporary issues and events.

POLS 1500 Introduction to Politics Cr.Hrs.6 (Formerly 019.150) A survey and appraisal of contemporary ideology, government, and international problems. Students may not hold credit for both POLS 1500 (019.150) and POLS 1501 (019.150).

PSYC 1200 Introduction to Psychology Cr.Hrs.6 (Formerly 017.120) Basic concepts principles of individual behaviour are examined, particularly those of human development, normal and abnormal behaviour, social psychology, learning, perception, psychological measurement. Students may not hold credit for PSYC 1200 (017.120) and any of: PSYC 1201 (017.120) or PSYC 1211 (017.121) or PSYC 1221 (017.122). *Prerequisite* for all other courses in Psychology.

SOC 1200 Introduction to Sociology Cr.Hrs.6 (Formerly 077.120) A systematic introduction to the scientific perspective of sociology. The following areas will be treated: culture, socialization, groups, social stratification, associations, collective behaviour, and urban and political institutions. Students may not hold credit for SOC 1200 (077.120) and any of: SOC 1201 (077.121) or SOC 1221 (077.122).

g. New Foundation Course Descriptions

ARTS 1160 Leadership: An Interdisciplinary Approach Cr.Hrs.3 This course provides an introduction to the key issues and concerns of leadership and leadership studies, focusing on the central question of "what is leadership". Students will examine the philosophical and historical foundations of leadership theory and practice, along with the more contemporary (and often more theoretical) reflections on both leadership practices and the varied disciplines that study them. This course will satisfy the Faculty of Arts Social Science requirement.

XXXX Understanding and Using Data (3) This course provides students with the methodological background necessary to read and interpret data, charts, tables, etc. by analyzing the methods of data acquisition. This course will be under development in consultation with social science disciplines in Arts and with the mathematics or Statistics Departments. An additional objective in developing this course is its fulfillment of the mathematics (M) requirement for all University of Manitoba students. Currently no course description is available.

XXXX Introduction to Social Sciences I (3) and XXXY Introduction to Social Sciences II (3)

Major concepts in psychology, sociology, anthropology and political studies are introduced and developed for students with no previous background in any of these disciplines. These courses are under development by colleagues designated by the Department Heads of Anthropology, Political Studies, Psychology, and Anthropology. Currently two approaches have been identified:

1. Use existing course developments in 1000-level courses in these disciplines (ANTH 1210 or 1220; POLS 1500 or any of the newly introduced POLS 1000, 1010, 1040, or 1070; PSYC 1200; SOC 1200). Extract core components and bundle together to represent all disciplines in both I and II. Bundle together core components from two of the four disciplines in I and the other two in II. This strategy would permit the most rapid (even if interim) development of I and II that would then proceed through each discipline's Department Council for review/approval before submission to the Arts Course and Programme Approval Committee. This strategy could also capitalize on those 1000-level courses in each discipline that are currently offered via Distance Education or in the new blended formats, and, thereby, would optimize existing on-line delivery materials.

2. Develop these courses around core themes (big question?) in contemporary society (2 or 3 each term) and how each of these four social science disciplines approach each theme. Although this approach may also utilize existing materials from 1000-level courses in each discipline and from elements that are available on-line, it provides a *unique* opportunity for *innovation* in the interdisciplinary development/delivery of course content in the Faculty of Arts. These Departments will also be asked to consider that these courses be permitted to fulfill the prerequisite for upper-level courses in Psychology, Sociology, Anthropology and Political Studies. Note that only Psychology and Sociology currently require the successful completion of 6 credit hours of 1000-level course work (PSYC 1200; SOC 1200) to enter 2000- and 3000-level courses in their disciplines. Both Anthropology and Political Studies generally require only one 3-credit-hour 1000-level course to enter 2000- through 3000-level courses in their disciplines. They also have many 2000- to 3000-level course options that have no 1000-level prerequisite. In the absence of the availability of the newly proposed I and II courses, or the decision of the relevant Departments to not waive the usual prerequisites for students to enter upper-level courses in their disciplines, students in the Integrated Studies program would retain the option of taking either PSYC 1200 (6) or SOC 1200 (6) in order to matriculate into 2000- and 3000-level courses in either Department.

1.4 Program fit with institutional mission and planning priorities

1.4.1 University of Manitoba mission and priorities

The mission of the University of Manitoba is "To create, preserve and communicate knowledge, and thereby, contribute to the cultural, social and economic well-being of the people of Manitoba, Canada and the world." (See <http://umanitoba.ca/about/mission.html>.)

The BA Integrated Studies not only meets a critical need in Manitoba, builds on existing areas of strength, and moves the institution in directions identified as priorities, but also contributes significantly to the economic, social, and cultural well-being of Manitobans and Canadians. *Building a Brighter Future* (2003) stated that the University of Manitoba should "be at the centre of our community... [and] seek opportunities to enable Manitobans to learn throughout their lifetime." In the recent *Draft Strategic Planning Framework 2009-2014* (circulated from May 13, 2009), President Barnard assessed internal *Strengths* and external *Opportunities* for

the University based on the outcomes of this previous strategic plan. These included the University's strong connection to the community, the "broad range of programs and choice", "the supportive learning/work environment", and "commitment to accessibility" (*Strengths*, p. 2, Table) and the "interest from [the] external community," opportunity for "enrolment growth from economic uncertainty, the "university of first choice for all Manitobans," and "connections with the Aboriginal community" (*Opportunities*, p. 2, Table).

The Bachelor of Arts Integrated Studies provides a program in which working adults can complete an undergraduate degree that recognizes their prior post-secondary education and experience. It also provides purposeful scheduling of offerings and individualized academic planning that improves access to an exceptional education and likelihood of student success. It underscores these *Strengths* and capitalizes on the *Opportunities*; while it thwarts identified *Threats* ["competition for students. . .," "economic uncertainty", "changing demographics," local indifference ("taken for granted"), and "duplication of programs provincially", p. 2, Table] in the following ways:

- increasing the pool of motivated adult learners seeking a university degree,
- retaining students in certificate and diploma programs for more advanced study,
- recognizing the changing pathways for students to enter university education,
- working in partnership with employers in the private and public sectors to enhance career opportunity and progression for employees, and
- spot-lighting the centrality of the University to the city, the province, and the country.

In addition, the Bachelor of Arts Integrated Studies undercuts the "silo mentality" identified in the draft strategic plan as a current *Weakness* by providing a flexible, yet rigorous liberal arts education that permits students to select broadly across Faculty, School, and disciplinary boundaries and to ladder previous certificate and program credentials towards B. A. completion. It has been developed by working across units at the University and in consultation with stakeholders in the private/public sectors.

1.4.2 Faculty of Arts priorities

Dean Sigurdson summarizes the mission and priorities of the Faculty: "The Faculty of Arts is committed to providing an excellent liberal arts education to its students, to expanding the frontiers of knowledge through research and creative activity, and to serving our communities through outreach and academic service." (See http://umanitoba.ca/faculties/arts/dean/deans_welcome.html.) Further, he identifies the key elements of a liberal arts education as ". . .the ability to think for yourself, the skills to communicate effectively, and the capacity for lifelong learning."

The proposed B. A. Integrated Studies extends excellence in liberal arts education to new groups of students, and by recognizing their special needs, serves our local, provincial, national, and international communities through academic outreach. It also strengthens and benefits inter-Faculty/School cooperation that focuses on a liberal education. Moreover, this education highlights the "tangible, practical skills that employers value highly. . . skills and knowledge that are never obsolete." (See http://umanitoba.ca/faculties/arts/dean/deans_welcome.html.)

The Organization for Economic Cooperation and Development (OECD)'s report *Literacy Skills for a Knowledge Society* identifies *literacy* and *literacy skills* as key factors to impact any employment. For example, the International Adult Literacy Survey (1994-1998), as summarized by OECD, "no longer defines literacy in terms of an arbitrary standard of reading performance Rather, proficiency levels along a continuum denote how well adults use information to function in society and the economy. Thus, literacy is defined as a particular capacity and mode of behaviour: the ability to understand and employ printed

information in daily activities, at home, at work and in the community - to achieve one's goals, and to develop one's knowledge and potential. Differences in levels of literacy matter both economically and socially: literacy affects, inter alia, labour quality and flexibility, employment, training opportunities, income from work and wider participation in civic society." (See http://www.oecd.org/document/2/0,3343,en_2649_39263294_2670850_1_1_1_1,00.html.)

The mission of the Faculty of Arts to teach and to conduct research in the humanities and social sciences that advance and preserve knowledge. . . in an increasingly specialized society (Faculty of Arts, Mission Statement, 1992) meshes well with the goals of literacy and a liberal arts education: critical thinking and analysis, problem-solving and ethical decision-making, effective communication, self-reflection, and sensitivity to and awareness/tolerance of diversity, among others. Both support the goals of the proposed B. A. Integrated Studies to provide an excellent post-secondary education to working adults that fosters literacy in support of career advancement and adaptability, which, in turn, thwart vulnerability to unemployment, under-employment, and job dissatisfaction.

1.5 Comparison to existing programs

No comparable programs exist in Manitoba. However, providing degree completion options for adult learners is not new to higher educational institutions. Multiple examples exist within the post-secondary educational system in the US, representing the range of public and private schools, including Murray State University, DePaul University, Emporia State University, and Columbia University. Within Canada there are only three institutions offering Integrated Studies degrees: Simon Fraser University, the University of New Brunswick (outlined in 1.5.1 and 1.5.2) and the University of Prince Edward Island. Although each degree program has specific curriculum requirements and modes of delivery, all programs are designed to respond to adult learners.

The barriers that adults face when attempting to access post-secondary education have been discussed widely within the literature. Cross (1981) classified barriers as *institutional* (the lack of suitable courses, inconvenient schedules or locations), *situational* (lack of time for study due to work, family, lack of financial support) and *dispositional* (related to the attitudes and self-perceptions of adult learners). Post-secondary education can mean removal from one's immediate financial, social, emotional, and cultural supports, independent of the time when one pursues that education. For example, in its January (2004) report, the Canadian Millennium Scholarship Foundation identified *remoteness* of "home" from "university" and *loneliness* as strong personal barriers to post-secondary education experienced by many Aboriginal persons. (See http://www.millenniumscholarships.ca/images/Publications/aboriginal_en.pdf.) Successful degree programs for adults attend to these barriers by providing appropriate learner supports and course design and delivery. The B.A. Integrated Studies ladders previous diploma or certificate completion and previous post-secondary level coursework into its degree program. It also permits degree completion on a part-time basis (at the learner's own pace) and in either on-line or face-to-face formats, which permit student to tailor curriculum delivery to their personal preferences and circumstances.

1.5.1 Simon Fraser University: Interdisciplinary Degree

Simon Fraser University offers a 120-credit-hour interdisciplinary degree in Integrated Studies with two areas of concentration: (1) Liberal and Business Studies; (2) Aboriginal Leadership and Administration (<http://www.sfu.ca/integratedstudies/index.html>). Simon Fraser's program is offered through the Faculty of Arts in collaboration with Continuing Studies and is characterized by its face-to-face cohort-based delivery mode. Initiated in 1995, the program is the first of its kind in Canada. Its development underscored a university-business partnership, whereby Canadian Pacific approached Simon Fraser to provide educational access for its mid-career employees towards a bachelor's degree that would foster career progress. Since its

inception the program has graduated over 500 students. Its retention rates have been about 80% over the last 10 years. The curriculum draws upon existing Simon Fraser courses, selected after consultation with employers and stakeholders, with the goal of providing graduates with the essential skills outlined by the Conference Board of Canada.

Simon Fraser admits adult learners to the program under the following Flexible Admission criteria and process:

- A minimum of 10 years workplace experience and completion of some post-secondary education (e.g., certificates, diplomas, credit courses, professional programs)
- Attendance at an information session for which applicants must pre-register
- Completion of an application form that includes biographical information, resumé, and letters of support
- Successful participation at an interview
- Successful completion of a one-hour diagnostic test taken following the interview.

Students admitted to the program receive advanced standing for 60 credit hours and must complete 60 credit hours of study within the program. All 60 credit hours must be taken at Simon Fraser; transfer credits are not accepted.

1.5.2 University of New Brunswick: Bachelor of Integrated Studies Program

The University of New Brunswick offers a 120-credit-hour Bachelor of Integrated Studies (http://cel.unb.ca/deg_cred/programs/bis.php). The program is a collaboration between Renaissance College and the College of Extended Learning, with courses available face-to-face or online. To be admitted to the program, learners must have been out of high school for at least seven years and have a minimum of 30 hours credited towards the degree. These credit hours may be obtained through formal post-secondary study or through Prior Learning Assessment of past work, life and informal learning experiences. Upon admission, students work with an advisor to develop an individualized plan of study that will incorporate the following components:

- A minimum of 12 credit hours from Renaissance College comprised of a three-credit hour learning portfolio course and the balance from inter-disciplinary leadership courses
- A minor field of study comprised of 24 credit hours in one discipline or interdisciplinary area
- A minimum of 39 credit hours at the 3000 and/or 4000 level.

Both Canadian programs have attracted a new group of learners to their respective institutions: highly motivated adults with some post-secondary education (e. g., degree, certificate or diploma, extensive work experience and the skills to succeed in a university environment). Simon Fraser's program has been in operation for over 10 years and has 500 graduates. Ongoing offerings of this degree program continue to attract a full complement of students. The University of New Brunswick program is newer (in operation for only three years) but currently has 50 registrants and five graduates. Both programs incorporate some form of Recognition of Prior Learning. The proposed University of Manitoba Bachelor of Arts Integrated Studies (IS) draws upon aspects of each of these programs:

(IS) Admissions

- Minimum period of full-time workplace experience [3 years in the B.A. (IS)]
- Minimum completion of some post-secondary education [certificates, diplomas, and credit courses for the B. A. (IS)]

- Completion of an application that requires [vetting by an Arts faculty-level committee for the B.A. (IS) of]
 - Two letters of support (one required from the current or most recent employer)
 - A resumé (including a detailed outline of applicant's work experience)
 - A letter of intent (500 – 1000 words that includes the applicant's rationale and suitability for entering the program)
- An interview and additional assessment of writing and problem-solving skills in the B. A. (IS) *only if the letter of intent, resumé, or both are not satisfactory (as specified in the degree program's admission requirements).*

Curriculum

- Minimum number of credit hours of required courses [The B. A. (IS) has 21 credit hours of foundation or required courses in a 90-credit-hour degree program; 18 credit hours in any minor recognized by Arts or in an interdisciplinary *concentration* and 51 credit hours of electives, with 15 credit hours at the 2000 level or above and 6 credit hours at the 3000 level or above; Simon Fraser requires 60 credit hours within a 120-credit-hour program; New Brunswick requires 12 credit hours from Renaissance College, a minor of 24 credit hours, and at least 39 credit hours at the 3000 or 4000 level in a 120-credit-hour program.]
- Leadership course [The B. A. (IS) requires 3 credit hours of a leadership course as part of its foundation or core curriculum; whereas, New Brunswick requires 9 credit hours of interdisciplinary leadership coursework.]

Furthermore, the core curriculum in the proposed B. A. (IS) capitalizes on introductory *literacy*-expanding coursework that will forge a strong foundation for adult learners who have been away from formal university studies and meets the core requirements for improved employment options and career progress identified by provincial employers.

SECTION II Market Need and Market Demand for the Program

2.1 Local or provincial market needs for graduates

The degree will serve individuals with some post-secondary study who wish to complete a university degree, a defined need in the province. An increasing number of careers require an undergraduate degree. For example, professional classifications such as Certified General Accountants (CGA) presently require a degree, while the Certified Human Resource Professionals (CHRP) Association will require an undergraduate degree by 2010 as a prerequisite to the credentialing process (CHRP examination).

Canadian Institute of Management (CIM) (both at the national and provincial level) expressed strong support and saw the proposed degree, as having the potential to serve CIM graduates nationally. Most recently the University of Manitoba Extended Education has assumed responsibility for the CIM distance education program serving a national audience.

2.2 Probable employment destinations

A major focus of the degree has been the provision of degree completion options for mid-career adults, providing an opportunity for advancement and mobility in the workplace. For these individuals, employment may often be within their current organization, but holding the new credential provides

opportunities for advancement. For employers this degree enables career planning within their organization and supports a retention strategy. Potential employment destinations included the civic and provincial offices, Manitoba Hydro, The Manitoba Lotteries Commission, Manitoba Liquor Control Commission, and Manitoba Public Insurance Corporation. Canadian Institute of Management (CIM) (both at the national and provincial level) expressed strong support and saw the proposed degree, providing it was available in an online format, as having the potential to serve CIM graduates nationally.

2.3 Consultation with relevant groups/agencies

The proposal developers conducted focus groups and interviews with senior administrators of Manitoba Hydro, the Manitoba Lotteries Commission, the Canadian Institute of Management, the Human Resource Management Association of Manitoba, the Manitoba Liquor Control Commission, the Manitoba Public Insurance Corporation, and the Government of Manitoba Dept of Training and Development. The needs assessment corroborated the need for the proposed program. All stakeholders interviewed confirmed that a growing number of positions in their respective organizations required an undergraduate degree and urged the University of Manitoba to move quickly in the development and offering of this new degree program. During the focus group and interviews participants were asked to identify who in their organizations might participate in the program, what delivery mode(s) should be employed, what content would be appropriate, and what barriers might exist.

When asked specifically to whom in their respective organizations the program would appeal, senior administrators' responses included trainers and internal consultants, store and department managers, professionals, mid-level managers and supervisors. Participants stated that there is an immediate need for the University to provide "laddering" of post-secondary certificates and diplomas into degree programs.

2.4 Fit with provincial economic, social and cultural priorities

Education remains a pillar of the provincial government strategy along with the creation of a culture of lifelong learning. The province recognizes the valuable human resources we have and needs to provide opportunities for education and training, across the entire population, particularly those otherwise excluded from higher education. As identified in the University's *Strategic Planning Framework*, a discrepancy in attainment of postsecondary degrees remains between Aboriginal and non-Aboriginal peoples. Yet, "increased educational success of Aboriginal peoples is critical to the social, cultural and economic development of Manitoba and Canada" (*Strategic Planning Framework*.2009). The Bachelor of Arts Integrated Studies recognizes coursework previously completed in diploma and specific certificate programs, and offers flexibility in programming and both distance and local curriculum delivery, which reduce barriers both to accessing post-secondary education and completing a bachelor's degree.

2.5 Potential for job creation and research and development

The B.A. Integrated Studies is a new program focusing on degree completion with a unique curricular model of foundational courses and concentrations, and multi mode delivery. It will provide an opportunity for program related research, and inform future practice.

SECTION III: Student Demand for the Program

3.1 Students the program will serve

The proposed program would serve students who have completed some post-secondary education (e.g., certificates or diplomas) and wish to complete a degree, many of whom will be mid-career working adults.

3.2 Existing program offerings in Manitoba

Currently there are no existing program offerings in Manitoba. However, providing degree completion options for adult learners is not new to higher educational institutions. Multiple examples can be found within the U.S. system including Columbia University, Emporia University, Murray State University, and DePaul University. Within Canada there are only three institutions offering Integrated Studies Degrees, Simon Fraser University, University of New Brunswick, and University of Prince Edward Island. Although each degree program has specific curriculum requirements and modes of delivery, the three programs are designed to respond to adult learners.

3.3 Evidence of student interest and demand for program

Meetings with Advisory Groups for designated certificate programs and potential students with certificate qualifications all supported the need for a degree completion option.

The table below provides student data on the four certificates articulated with the proposed BA Integrated Studies

Certificate	Current Numbers of Students	Numbers of Graduates 2004-2009
Canadian Institute of Management Certificate Program in Management and Administration	364	459
Certificate Program in Human Resource Management	349	426
Certificate in Financial and Management Accounting	128	31
Certificate in Adult and Continuing Education	150	213

Moreover there are currently over 3000 certificate and diploma students registered through Extended Education in 2008-09 who may be possible candidates for this proposed degree.

3.4 Projected enrolments

We are projecting 50 admissions per year.

3.5 Existing programs projected to lose enrolment to this program

The Bachelor of Arts Integrated Studies is designed to bring new students to the institution: adults with some post-secondary education or equivalent, work experience, and the skill level and commitment to be successful within an academic environment. The program will not target existing undergraduate students and thereby not compete with existing programs; it is an addition to existing credentials available at the University of Manitoba.

3.6 Proposed growth limits and minimum enrolments

Based on the current graduation rate in the four certificate programs identified as acceptable for admissions to the B. A. (IS) alone, 50 students equal a conservative enrolment estimate. Because the Canadian Institute of Management is awaiting the introduction of this degree program for students who have completed their certificate designation, enrolment will rise as more students Canada-wide learn of this novel option. Therefore, the program may encourage 100 – 150 new adult learners to select the University of Manitoba for their baccalaureate program.

3.7 Projected number of graduates

We project that we will have 50 graduates within the first 3-5 years.

3.8 Participation and success by under-represented groups

By providing a mechanism to ladder successful completion of prior certificates and diploma programs into a university baccalaureate program, the B. A. (IS) increases access of persons

- Whose post-secondary educational aspirations may have been thwarted by immediate financial needs or have grown from their workplace/employment experiences
- Whose employment classification has been modified to require successful completion of a post-secondary degree program for maintenance of or advancement in their workplace
- Who are recent immigrants to Canada who may be under-employed
- Who have successfully participated in the University's Aboriginal Focus and Diploma programs and are interested in a flexible option to achieve a B. A.

All services currently available university-wide to students in Arts' 3-year and 4-year B. A. programs will be available to students in the B. A. (IS) program. These include Arts' Student Advisors, Access advisors, Learning Assistance Centre personnel, including Writing Tutors, area reference bibliographers, and Student Counselors, among others. In addition to face-to-face course offerings on the several campuses of the University of Manitoba, courses will be offered in a variety of formats to enhance accessibility. Some employers (e.g., Manitoba Hydro) would also be interested in providing classroom accommodations on site to facilitate employees' participation.

3.9 Availability to part-time learners

The B. A. (IS) has been developed for part-time learners---persons whose work and personal life commitments do not permit registration in a full course load. Although persons admitted to the program could register for full loads, most students are likely to take up to two 3-credit-hour courses per term (including Summer Session).

SECTION IV: Faculty Requirements

4.1 Current Faculty who will teach in the program

No new faculty will be required to teach any of the foundation courses in the program. Currently all courses are staffed by the Faculty of Arts, Education, and Social Work as part of their existing (and continuing) curricula. Courses under development for the foundation (*viz.*, Understanding and Using Data; Introduction to the Social Sciences I and II) will draw from current faculty in the Faculties of Science and Arts, respectively. The newly introduced *Leadership: Theory and Practice* will be offered by the Faculty of Arts in conjunction with the Division of Extended Education, with on-line course delivery being developed by a faculty member in Continuing Education.

Listed below are Instructors of existing courses as determined by the 2009/2010 Course offerings:

Name	Department	Status
Muriel Agnes	Education 1560	Sessional Instructor
Cheryl Albas	Sociology	Sessional Instructor
Daniel Albas	Sociology	Professor

Name	Department	Status
Rachelle Ashcroft	Social Work 2080	Sessional Instructor
Ousmane Ba	Social Work 2080	Assistant Professor
Jonathan Ball	English	Sessional Instructor
Henry Bissoon	English	Sessional Instructor
Daniel Bowers	Arts 1110	Sessional Instructor
Kathleen Buddle-Crowe	Anthropology	Professor
Stacie Burke	Anthropology	Associate Professor
Anna Clemens	English	Sessional Instructor
Radhika Desai	Political Studies	Professor
Lori Doan	Psychology	Sessional Instructor
Lisa Dorcich	English	Sessional Instructor
Margaret Edmonds	Anthropology	Sessional Instructor
Peter Feher	Sociology	Sessional Instructor
David Foster	English	Sessional Instructor
Raymond Foui	Sociology	Sessional Instructor
Anna Fournier	Anthropology	Assistant Professor
Kent Fowler	Anthropology	Assistant Professor
Haskel Greenfield	Anthropology	Professor
Rumel Halder	Anthropology	Sessional Instructor
Deana Halonen	Social Work 2080	Sessional Instructor
Michael Hart	Social Work 2080	Assistant Professor
Judith Hughes	Social Work 2080	
Tammy Ivanco	Psychology	Associate Professor
Tami Jacoby	Political Studies	Associate Professor
Karen Kampen	Sociology	Instructor II
Mary-Anne Kandrack	Sociology	Sessional Instructor
Oleksandr Kondrashov	Social Work 2080	Sessional Instructor
Annette Lapointe	English	Sessional Instructor
Jason Leboe	Psychology	Associate Professor
Steven Lecce	Political Studies	Assistant Professor
Shirley Lee	Anthropology	Instructor
Karine Levasseur	Anthropology	Sessional Instructor
Leslie Leventhal	Psychology	Professor
Shelley Mahoney	English	Sessional Instructor
David Martin	Psychology	Professor
Kathleen Matheos	Extended Education	Associate Professor
Susan Miller	Sociology	Sessional Instructor
Susan Milne	Anthropology	Assistant Professor
Patricia Mochnacz	Arts 1110	Sessional Instructor
Jenifer Mohammed	English	Sessional Instructor
Gregory Monks	Anthropology	Professor
Brian Myhre	Anthropology	Sessional Instructor
Michael O'Brien-Moran	Arts 1110	Instructor II
Louise Olson	English	Sessional Instructor
Tannis Peikoff	Sociology	Sessional Instructor
Tracey-Lee Peter-Joyal	Sociology	Assistant Professor
Christopher Powell	Sociology	Assistant Professor

Name	Department	Status
Susan Prentice	Sociology	Professor
Lance Roberts	Sociology	Professor
Barbara Rudyk	Arts 1110	Sessional Instructor
Anna Schmidt	Education 1560	Sessional Instructor
Brian Schwimmer	Anthropology	Associate Professor
David Sexton	Psychology	Sessional Instructor
Louis Svenningsen	Psychology	Lecturer/Instructor
Christopher Tysiaczny	Psychology	Sessional Instructor
J. Roger Wilson	Psychology	Associate Professor

4.2 Additional Faculty and Staff required

4.2.1 Faculty

No new faculty are required for this program's introduction. However, Dr. Kathleen Matheos (Continuing Education, Division of Extended Education) will be offering the leadership foundation course. Ideally if appointments become available in the Arts Faculty in areas that could increase the available number of instructors in leadership, then the teaching responsibility for this course could rotate between more than one professor or instructor.

4.2.2 Additional Staff

No new support staff will be required for this program's introduction. Arts will rely on its current complement of Student Advisors to address academic programming and counseling for the projected registration. However, if the registration to this program grows locally and nationally, then Arts will consider requesting additional advisory support.

SECTION V: Cooperative Agreements

5.1 Cooperative agreements with other institutions/organizations

Extended Education at the University of Manitoba recently entered into an agreement with the Canadian Institute of Management <http://www.cim.ca/> to be the provider of their national online program, consisting of eight courses leading to the certification. Participants in this program are eligible to apply to the B.A. Integrated Studies.

The University of Manitoba is also a member of the Canadian Virtual University, <http://www.cvu-uvic.ca/> with Dr. Lori Wallace serving as the chair of the Board of Directors. This consortium provided learners with a wide range of distance and online offerings from Canadian universities.

5.2 Transfer credit

No credit will be given for uncompleted certificate programs.

Transfer credit for course work completed in one of the four certificate programs required for admission and/or a diploma program will be determined through a course by course articulation process.

If the student is admitted on the basis of one of the certificate programs required for admission and has also completed other degree credit course work at a university or other post secondary institutions beyond the courses counted for admission, the course work completed at a university or other post secondary institution will be evaluated by the respective departments for possible transfer credit, subject to the ten (10) year rule.

Should a student complete more than one certificate or diploma program, the student will receive transfer credit for the certificate or diploma program used as basis of admission notwithstanding the ten (10) year rule. Additional certificates/diplomas beyond the certificate or diploma counted for admission will have the individual courses evaluated for possible transfer credit subject to the ten (10) year rule.

Students who have been admitted on the basis of a minimum of twenty-four (24) credit hours of university level course work will be eligible to receive transfer credit for all course work acceptable for credit in Arts. The twenty-four (24) credit hours of course work used as the basis of admission will not be subject to the ten (10) year rule. Students who have completed course work in excess of the twenty-four (24) credit hours of course work used as the basis of admission will have such course work considered for further transfer credit subject to the ten (10) year rule and transferability.

All course work assessed by the University as acceptable for transfer credit will be applied to the degree subject to the Faculty of Arts residency requirements. In addition such course work will be included in the total 'D' and 'F' grades count for academic assessment purposes.

SECTION VI: *Learning Technologies*

6.1 *Use of modern learning technologies*

The proposed degree will use a variety of technologies in the delivery of blended and online options. Technologies available include the UM LMS, social networking technologies such as blogs, wikis, online discussion forums, and a virtual classroom (e.g., ivocalize).

SECTION VII: *Resource Requirements*

7.1 *Library resources*

Current library resources will support the introduction and continuance of the B. A. (IS) program. In particular, accessibility to the current e-holdings of the University of Manitoba Libraries is an asset to a program that will register part-time and distance learners. See Appendix 2 for a letter confirming the Libraries' ability to support the program.

7.2 *Computer facilities*

No additional computer facilities will be required to support the introduction of the B. A. (IS) program. The University's adoption of ANGEL course management software increases course, instructor, and peer accessibility to students both on and off campus. Of particular concern for a program that offers courses in multiple formats and to local and distant learners is the availability of high quality on-line student supports. The Learning Assistance Centre provides on-line versions of its face-to-face supports, and the University's novel *Virtual Learning Commons* is a one-stop portal to an excellent array of student learning aids in writing, test-taking, text-reading, studying, academic integrity, and time management, among others. All University of Manitoba registered students have access to these excellent on-line supports. See Appendix 6 for a letter confirming the adequacy of the Learning Assistance Centre's on-line student supports for this program.

7.3 *Use of existing facilities and equipment*

7.3.1 *Existing facilities*

Existing facilities are adequate to support the introduction of this program. B. A. (IS) program students will take classes either face-to-face, on-line, or in blended formats with their peers in other programs.

7.3.2 Existing equipment

Available computer and course delivery equipment is adequate for the introduction of the B.A. (IS) program.

7.4 Additional facilities and equipment required

No additional facilities or equipment are required for the introduction of this program. Several Manitoba employers who are interested in the availability of this program to their staff have offered classroom and computer facilities, if arrangements occur for providing particular courses at their off-campus sites.

SECTION VIII: *Financial Considerations*

8.1 New resources required

Course Development

Development of on-line version of ARTS 1160 Leadership: An Interdisciplinary Approach (3 credit hours)	\$15,000
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Development of on-line version of new course, XXXX Understanding and Using Data (3 credit hours)	\$30,000
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[The development of an on-line version of this course is more costly to develop due to the level of computer expertise required.]

Faculty and Staff

- | | |
|--|----------|
| - Yearly teaching stipend for ARTS 1160 Leadership: An Interdisciplinary Approach (3 credit hours) | \$ 5,000 |
| - Yearly teaching stipend for ENGL 0930 English Composition (3 credit hours) | \$ 5,000 |

Note: stipend for ENGL 0930 will be required only if enrolment exceeds current course capacity.

One Time Only Start-up Costs

Promotional Materials Costs	\$25,000
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- Advertising brochures
- Advertisement on buses (and other media)

Total =	<hr/> \$80,000
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8.2 Reallocation of existing funds/new funds required

Other than the new resources identified above, a reallocation of existing funds will not be necessary because the degree is comprised of, for the most part, existing courses.

8.3 Projected tuition revenue

Students admitted to this program will normally receive an average of 24 credit hours of transfer credit upon admission to the program that may or may not have been completed at the University of Manitoba. It is expected that such students will complete the remaining degree requirements program part-time in four to five years.

Assuming the program attracts 50 new student per year to the University of Manitoba and these students take on average the equivalent of four 3 credit hours courses during the fall/winter terms and two 3 credit hour courses in a summer session (total 6 courses/year), in four years the yearly tuition (Arts course @ \$282.15) revenue for all students in all four years of the program will be:

$$50 \times 6 \times \$282.15 \times 4 = \$338,580/\text{year}$$

Note: If a course is taken by distance or on-line Education there will be an additional \$15.68 per credit hour.

8.4 Enrolment Impact on overall tuition fees

The above calculation was made assuming an Arts course. However because the program is interdisciplinary faculties other than Arts will benefit from the program and the projected revenue would rise. The foundation courses could expect to see an increase in enrolment by up to 50 students per year. Similarly there will be an increase in enrollments in numerous elective courses that a student may select from any faculty or school.

8.5 Program funding and enrolment decreases

Since no new faculty or support staff are required for the degree program and the funding requirements are essentially start-up costs, a decrease in enrolment will not affect our ability to offer the program. Should the new program not succeed, the new foundation courses will be opened for registration by students in any faculty or school.

SECTION IX: Program Consultations and Evaluations

9.1 Consultations

Wide-ranging consultations occurred throughout the development of the B. A. (IS) program. Following initial discussions among the Deans (Richard Sigurdson and Lori Wallace) and Associate Deans (Linda Wilson and Kathleen Matheos) of the Faculty of Arts and the Division of Extended Education, Linda Wilson chaired an *ad hoc* committee advisory to Dean Sigurdson that included the following participants:

- Dr. Barry Ferguson (History and Associate Dean of Arts)
- Dr. Constance Cartmill (French, Spanish, and Italian)
- Dr. Rick Linden (Sociology and Criminology)
- Dr. David Camfield (Labour Studies)
- Ms Janet Sealey (Executive Administrative Assistant – Academic to the Dean of Arts)
- Dr. Lori Wallace (Dean, Extended Education)
- Dr. Kathleen Matheos (Associate Dean, Extended Education)
- Dr. Atlanta Sloane-Seale (Director, Continuing Education)
- Dr. Bill Kops (Director, Summer Session)
- Ms Adrienne Carriere (Director, Recognition of Prior Learning)

This group developed the program's objectives, special concentrations, and overall format. Consultations with governmental and non-governmental employers in Manitoba informed their discussions. Input from employers focused the course selection in the foundation and in the special concentrations. Employer consultations occurred in formal focus groups held at the University of Manitoba Downtown campus and at Manitoba Hydro and in interviews with senior administrators of the following organizations/corporations:

- Manitoba Hydro
- Manitoba Lotteries Commission
- Canadian Institute of Management
- Human Resource Management Association of Manitoba
- Manitoba Liquor Control Commission
- Manitoba Public Insurance Corporation
- Government of Manitoba Department of Training and Development
- Dr. Rainey Gaywish, Acting Director, Aboriginal Focus Programs participated in the formal focus group held at the UM Downtown campus

Persons involved in the B. A. (Integrated Studies) program at Simon Fraser provided advice at both in-person meetings and e- and phone discussions.

The draft proposal was reviewed by the Arts Faculty Academic Regulations Policy Committee on three separate instances. Members of that committee included

- Dr. James Nickels (Psychology and Committee Chair)
- Dr. Judith Owens (English, Film, and Theatre---Department Chair)
- Dr. George MacLean (Political Studies---Department Chair)
- Dr. David Watt (English, Film, and Theatre)
- Dr. Rodney Kueneman (Sociology and Global Political Economy)
- Dr. Ibrahim Diallo (Dean, Collège Universitaire de St. Boniface)
- Dr. Bill Kops (Director, Summer Session)
- Dr. Barry Ferguson (Associate Dean, Arts---*ex officio*)
- Dr. Linda Wilson (Associate Dean, Arts---*ex officio*)
- Ms Janet Sealey (Executive Administrative Assistant-Academic to the Dean of Arts and Recording Secretary)

Input from these sessions contributed to the modification of the draft proposal and to its approval by the Policy Committee. Following its approval, the revised draft proposal was distributed to all Heads, Coordinators, and Directors in the Faculty of Arts and all Deans and Directors in the University of Manitoba for review. See Appendix 1 for copies of letters of support from Deans and Directors. Associate Dean E. Wilson addressed any suggestions or questions posed in their responses, and several suggestions were incorporated into the draft.

In addition, an e-discussion of one aspect of the Program's admissions (acceptance of the CIM certificate designation from accredited post-secondary institutions across Canada) yielded several questions (primarily from Human Ecology and the Asper School), which were addressed by Mr. Peter Dueck (Director, Enrollment Services) for the former and L. Wilson for the latter. There were no perceived obstructions to accepting the CIM certificate from accredited programs across Canada. As of July, 2009, the Division of Extended Education at the University of Manitoba has been designated as the primary on-line provider of this certificate program for Canada.

Heads of the Departments of Anthropology (Dr. Robert Hoppa), Political Studies (Dr. George MacLean), Psychology (Dr. Harvey Keselman), and Sociology (Dr. Elizabeth Comack) were consulted on the development of an interdisciplinary working group to develop courses *Introduction to Social Sciences I* and *Introduction to Social Sciences II*. Until these courses are developed and approved within these Departments and through the regular course approval mechanisms in the Faculty of Arts and University Senate, existing introductory level courses in any of these departments will fulfill this foundation curriculum requirement.

Mr. Michael O'Brien-Moran (Coordinator, Arts 1100 *Introduction to University*) was consulted about incorporation of material relevant to working adult learners to Arts 1100 or offering a separate section for students in the B.A. (IS) program. See Appendix 5 for his letter of support for the program and for the recently revised content of Arts 1100 that focuses on *literacy* and *literacy skills* as identified in Section 1.4.2 in OECD's report on *Literacy Skills for a Knowledge Society*.

Dr. Alex Wright (Associate Dean, Social Work) was consulted about inclusion of SWRK 2080 in the foundation curriculum (see Appendix 4 for her letter of support for its inclusion); Dr. Judith Owens (Head, English, Film and Theatre) was consulted about inclusion of ENGL 0930 (see Appendix 4 for her letter of support for its inclusion).

9.2 Evaluation of proposed program

The program was reviewed by the Deans and Directors of faculties and schools at the University of Manitoba in response to Arts' mailing of the proposal and supporting documentation. Heads of departments, coordinators of programs, and directors of centres in the Faculty of Arts have also received the proposal for review. Their responses are still arriving and will be part of the proposal's presentation to the Arts Executive Committee and subsequently to the full Arts Faculty Council for review and approval. See Appendix 1 for their responses to the program.

9.3 Procedures for institutional evaluation

Program evaluation will follow University practice for undergraduate program reviews. Modifications to any parts of the program will be reviewed by the appropriate Arts Faculty committees (e.g., admissions, program structure to the Arts Academic Regulations Policy Committee; course and curricular modifications to the Arts Course and Program Approval Committee). All reviews and recommendations arising from them receive additional scrutiny by the Arts Executive Committee before passage to the Arts Faculty Council for review and vote. Admissions, program, or curricular changes approved by the Arts Faculty Council move to the appropriate committees of the Senate of the University of Manitoba. For example, the Senate Committee on Admissions reviews all admissions matters; whereas, the Senate Committee on Curriculum and Course Changes reviews program and other curricular changes.

Report to the Senate Committee on Admissions concerning a proposal from the Faculty of Arts to establish admissions criteria for the newly proposed 90-credit-hour B. A. (Integrated Studies) degree program.

Preamble

1. The terms of reference for this committee can be found at:
http://umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/490.htm
2. The Senate Committee on Admissions met on November 24, 2009 to consider this submission from the Faculty of Arts. At its October 20, 2009 meeting, the Faculty of Arts Council unanimously passed the motion to establish a new 90-credit-hour degree, to be called the B.A. Integrated Studies including its admissions criteria. Similar motions had been passed at the September 4, 2009 meeting of the Faculty of Arts Executive Committee, and at the June 8, 2009 meeting of the Faculty of Arts Academic Policy Committee. The proposal, in its entirety, has been circulated previously to all Deans and Directors at the University of Manitoba for review and comment, and to all Department Heads, Program Coordinators, and Institute/Centre Directors in Arts.

Observations

The Bachelor of Arts Integrated Studies is a three-year degree program to be offered by the Faculty of Arts in collaboration with Extended Education. The program is geared to serve working adults who have completed some post secondary education. The degree requires areas of concentration rather than the traditional major/minor requirement, providing a more flexible path for degree completion but also ensuring academic rigor (e.g., appropriate writing and quantitative skills, breadth requirements, and an appropriate percentage of upper level courses).

The degree will formally recognize the education completed by certificate or diploma holders. In addition to a flexible curriculum model (e.g., concentrations of study rather than the traditional major/minor approach) the program will provide flexible course scheduling suitable for working adults. Hence, variable modes of delivery (e.g., blended, online, videoconference, weekend/evening) would be incorporated as needed.

Program educational objectives and learning outcomes. The BA Integrated Studies would meet a critical need in Manitoba, build on existing areas of strength, and move the institution in directions identified as priorities. The Bachelor of Arts Integrated Studies would provide a program in which working adults can complete an undergraduate degree that recognizes their prior post-secondary education and experience, and that provides purposeful scheduling of offerings and individualized academic planning. By increasing the pool of motivated adult learners seeking a university degree and retaining students in certificate and diploma programs for more advanced study, we underscore the value of the University education. Employers in the private and public sectors with whom we worked closely in developing the new degree program have identified the values of the degree as enhancing career opportunities and progression for employees not to mention the social and economic benefits of an educated workforce locally, nationally and internationally. The Bachelor of Arts Integrated Studies will provide a flexible, yet rigorous liberal arts education that permits

students to select broadly across Faculty, School, and disciplinary boundaries and to ladder previous certificate and program credentials towards B. A. completion.

Admission Requirements and Comparison of Admission Requirements between General and BA Integrated Studies [See Table 1 for complete comparison.]

Students must submit Items 1 – 3 for a completed application for admissions.

1. Students must complete one of the following:

Either

- a. i) University of Manitoba Certificate in Financial and Management Accounting (FMA), or
- ii) University of Manitoba Certificate Program in Human Resources Management (HRM),
or
- iii) University of Manitoba Certificate in Adult and Continuing Education (CACE), or

- iv) Canadian Institute of Management Certificate Program in Management and Administration (CIM) from any accredited post-secondary institution

(or)

- b. University of Manitoba diploma program (as defined by the Non-Degree Program Taxonomy approved by Senate) or a diploma completed at any accredited post-secondary institution

(or)

- c. Successful completion of a minimum of 24 credit hours of university level course work
- For (a.i) through (b) above, a minimum graduating average of 2.50 or 'C+' is required on the completed certificate or diploma program.

- For (c) above, a minimum average of 2.00 or 'C' is required on a minimum of 24 credit hours of university level course work, when used as the basis of admission.

- 2.** A resumé providing evidence of normally three (3) years of full-time workplace experience (i.e., ≥ 30 hours/week), preferably with the same employer. [Applicants who do not strictly fall into this definition of workplace experience may request special consideration from the B. A. (Integrated Studies) admissions committee.]

- 3.** a) Two letters of support (normally one must be from the current or most recent employer)

and

b) A letter of intent. The letter of intent must include the applicant's rationale and suitability to enter the program. For example, why has the applicant chosen this program instead of other degree programs at the University of Manitoba? Why does the applicant see a good fit between herself/himself and the program? How does the applicant envision successful completion of this degree enhancing her/his career development? The letter of intent and resumé (to be vetted by a Faculty-based committee consisting of full-time faculty) must provide evidence of satisfactory writing and problem-solving skills. The faculty-based committee to evaluate the admission writing requirement will determine a writing rubric in the near future.

Note. An interview and assessment of writing and problem-solving skills may be required if the applicant's letter of intent, resumé or both are deemed insufficient. A resumé or letter of intent that demonstrates poor written expression (poor mechanics of writing, inability to support an argument of suitability for the program) will prevent an applicant's acceptance into the program until s/he remediates this problem through completion of workshops through the Learning Assistance Centre or other community-based resources. Then an applicant will provide written documentation of successful workshop completion and re-submit his/her application for admission to the program. Lack of focus of goals for degree completion, lack of expressed seriousness of purpose for the degree program and weak letters of support can also provide grounds for an unsuccessful application.

Admission Conditions

1. In determining eligibility for admission, the Faculty will consider the completed certificate or diploma programs or 24 credit hours of university level course work as the basis of admission regardless of when the work was completed (e.g., the 10 year rule does not apply).
2. An individual who is admitted on the basis of one of the four completed certificate programs or a diploma program will be admitted to the Faculty of Arts as a Regular student providing the certificate or diploma contains a minimum of 24 credit hours of university level course work. If the certificate or diploma program has less than 24 credit hours of university level course work, the applicant must be admissible as a mature status student or meet the University of Manitoba regular entrance requirements.
3. Students who hold a first degree in Arts may not apply for the B.A. Integrated Studies degree program.
4. Students who have completed the B.A. Integrated Studies degree as their first degree may apply to one of the other degree programs offered by the Faculty of Arts seeking a second degree. Such students must submit an application for admission seeking a second degree. All current admissions policies and procedures with respect to those second degree programs will apply. In determining admission to the B.A. General, Advanced and Honours degree programs, any completed certificate/diploma programs will be evaluated for purposes of admission and transfer credit in accordance with the current admission policies and procedures for those programs.

Recommendation

The Senate Committee on Admissions recommends to Senate

THAT effective for the *Summer term 2010*, the admissions criteria as identified in the proposal for the B. A. (Integrated Studies) degree program be approved.

Respectfully submitted,

Dr. D.R. Morphy, Chair, Senate Committee on Admission

Table 1. Comparison of Admission Requirements/Policies between B.A. General and B.A. Integrated Studies

Admission Requirements/Policies	B.A. General	B.A. Integrated Studies
1. Basis of Admission	Students must have completed minimum of 24 credit hours of university level course work with a minimum cumulative grade point average (cgpa) of 2.00. If cgpa is < 2.00, but gpa on 24 credit hours \geq 2.00, then admission on recommendation of the Dean.	<ul style="list-style-type: none"> - Completion of one of the following: <ul style="list-style-type: none"> a) University of Manitoba Certificate in Financial and Management Accounting (FMA) b) University of Manitoba Certificate Program in Human Resources Management (HRM) c) University of Manitoba Certificate in Adult and Continuing Education (CACE) d) Canadian Institute of Management Certificate Program in Management and Administration (CIM) from any accredited post-secondary institution e) University of Manitoba diploma program (as defined by the Non-Degree Program Taxonomy approved by Senate) f) successful completion of a minimum of 24 credit hours of university level course work - for a) through e) a minimum graduating average of 2.50 or 'C+' is required on the completed certificate or diploma program - for f) a minimum of 24 credit hours of university level course work with a minimum cumulative grade point average (cgpa) of 2.00. If cgpa is < 2.00, but gpa on 24 credit hours \geq 2.00, then admission on recommendation of the Dean. - normally 3 years full-time workplace experience is required (i.e., \geq 30 hrs/wk) preferably with the same employer - 2 letters of support (one from current or most recent employer) - a resumé and letter of intent (an interview may be required if resumé and letter of intent insufficient)

Admission Requirements/Policies	B.A. General	B.A. Integrated Studies
2. Transfer Credit	All program/courses are evaluated for possible transfer credit subject to the 10 year rule (U of M policy).	<p>- Transfer credit for course work completed in one of the four certificate programs or for a diploma program used as basis of admission will be determined through a course by course articulation process regardless of when courses were taken.</p> <p>- If a student completes more than one certificate program, one certificate will be used as basis on admission notwithstanding the ten year rule. The additional certificates will be evaluated and transfer credit awarded based on a course-by-course articulation subject to the ten year rule (see below).</p> <p>- Students who have not completed a certificate program but who apply for admission on the basis of 24 credit hours of university level coursework will be eligible to receive up to 24 hours of transfer credit regardless of when the courses were taken. Coursework completed in excess of 24 credit hours will be considered for further transfer credit on a course by course basis and will be subject to the ten year rule (see below).</p>
3. Certificate/Diploma Programs at Community Colleges and Junior Colleges	<u>Only</u> courses completed in certificate/diploma programs at community colleges or junior colleges may be used as basis of admission and for possible transfer credit (U of M policy).	No change. Same as B.A. General
4. Certificate Programs completed through Extended Education	Faculty Councils approve University of Manitoba certificates (with report to Senate for concurrence prior to implementation). Relevant Faculties articulate transfer of credit. Only courses completed in certificate	Three certificate programs completed through the Division of Extended Education at the University of Manitoba and the Certificate of Management and Administration (CIM) completed through a division of continuing education at any accredited post-secondary institution will be considered as basis of admission.

	programs through Extended Education at University of Manitoba may be used as basis of admission and transfer credit (U of M policy):	Additional University of Manitoba certificates will be added to the list of certificates that may be considered for admission as they are evaluated for possible transfer credit.
Admission Requirements/Policies	B.A. General	B.A. Integrated Studies
5. Second Degree Students	Students may apply seeking a 2 nd degree providing 2 nd degree is not in same discipline or major (Faculty of Arts policy).	Students who hold a first degree may not apply for a B.A. Integrated Studies.
6. Ten Year Rule	Courses taken more than ten years ago are not used as basis for admission and/or transfer credit (Faculty of Arts policy).	The ten year rule will not apply to the certificate/diploma or university level coursework used as basis of admission.
7. Minimum of 'F' and 'D' grades	Students who exceed the maximum number of 'F' and 'D' grades permitted in the degree program are not admissible (Faculty of Arts policy).	Same.

Continuation and Graduation Requirements

Once accepted to the program students will be allowed to continue in the program providing they do not exceed the number of poor grades (i.e., 'F' and 'D' grades) permitted in the program.

Students will be placed on academic suspension if they have more than thirty (30) credit hours of 'F' grades or more than forty-two (42) credit hours of a combination of 'F' and 'D' grades. Following a one year suspension, the student may apply to the Dean's Office to return to the Faculty of Arts by selecting **one** of the following irreversible options:

a) To continue with no possibility of further 'F' or 'D' grades. A further 'F' or 'D' grade will result in academic suspension for two years. [Students placed on two year suspension may apply to the Dean's Office to start afresh.] OR

b) To start afresh with their previous course work not counting towards satisfying degree requirements. [In either case, the previous course work will remain on the student's record/transcript.]

Note: Students will be assessed at the end of the academic session. Students in academic jeopardy will be sent warning letters regarding their status in the Faculty.

A minimum degree grade point average of 2.00 [bringing in all evaluated courses in transfer credits] is required on the 90 credit hours of passed course work that satisfy all degree requirements.

Report of the Senate Committee on Curriculum and Course Changes on a Proposal from the Faculty of Arts for a Bachelor of Arts: Integrated Studies Program

Preamble

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) are found on the website at:
http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/497.htm.
2. The Senate Committee on Curriculum and Course Changes considered a proposal for a Degree Completion Program from the Faculty of Arts at its meeting on November 2, 2009.

Observations

1. The committee observed that the focus of this program is to serve working adults who have completed some post-secondary education, not necessarily at the university level. The proposed degree will formally recognize the education completed in a certificate or diploma program.
2. The program will focus on a non-traditional group of students who may not have considered attending university. This program will serve to increase the pool of motivated adult learners seeking a university degree and will also retain students in certificate and diploma programs for more advanced study.
3. A flexible curriculum model will provide flexible course scheduling suitable for working adults and will utilize variable models of delivery such as blended, online, videoconference, and weekend/evening course offerings.
4. The program provides a coherent pathway for adults to return to school and recognizes the changing pathways for students to enter university education.
5. Students admitted to the program will normally receive an average of 24 credit hours of transfer credit upon admission and it is expected that such students will complete the remaining degree requirements part-time in four to five years.
6. The program is comprised of 21 credit hours of foundation courses, 18 credit hours in an area of concentration rather than a traditional major or minor, and 51 credit hours of electives which are selected from across faculty, school and disciplinary boundaries.
7. One of the foundation courses, ARTS 1160 Leadership: An Interdisciplinary Approach (3), was approved by Senate December 2, 2009. Additional foundation courses including: Understanding and Using Data (3), Introduction to Social Sciences I (3) and Introduction to Social Sciences II (3) are under development and, in the meantime, students will be permitted to substitute 3 credit hours that satisfies the University "M" requirement plus 6 credit hours of 1000 level courses from the Departments of Psychology, Sociology, Anthropology or Political Studies.

8. No new faculty will be required to teach any of the foundation courses in the program. Currently all courses are staffed by the Faculty of Arts, Education and Social Work as part of their existing (and continuing) curricula. Foundation courses under development will draw from current faculty.

Recommendation

The Senate Committee on Curriculum and Course Changes recommends:

THAT Senate approve and recommend to the Board of Governors that it approve the introduction of a Bachelor of Arts: Integrated Studies Program, in the Faculty of Arts.

Respectfully submitted,

Professor H. Frankel, Chair
Senate Committee on Curriculum and Course Changes

/mb

Report of the Senate Planning and Priorities Committee on the proposal to introduce a Bachelor of Arts in Integrated Studies in the Faculty of Arts

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found on the website at:
http://www.umanitoba.ca/admin/governance/governing_documents/governance/sen_committees/508.htm, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.
2. The Faculty Council of Arts has approved a Bachelor of Arts in Integrated Studies Program and recommends Senate approve this proposed program.

Observations

1. The committee noted that this program was developed to meet the expressed need of students who have completed some postsecondary education (certificates or diplomas) and wish to complete a degree. Many of these potential students will be mid-career working adults. The program focuses on degree completion with a unique curricular model of foundational courses and concentrations and multi mode delivery options such as classroom based, web-based and blended models. The program is designed to increase access and to bring new students to the University: adults with some postsecondary education or equivalent, work experience and the skill level and commitment to be successful within an academic environment. The proposed program is an addition to existing credentials available at the University of Manitoba.
2. The committee noted that there was a need for \$30,000 start up funds for course development which will be provided by the Faculty of Arts. However, because the proposed program would be built on existing courses, it would require no new resources. No new faculty will be required to teach any of the foundational or introduced courses. All courses are, or will be, staffed by the Faculties of Arts, Education and Social Work as part of their existing (and continuing) curriculum.
3. The committee noted that the Director of Libraries has indicated that the current Library resources will be sufficient to support this proposed program. The committee noted that student accessibility to the e-holdings of the library will be a significant resource to these students which will include primarily part-time and distance learners.
4. Further it was noted that existing facilities and technological resources are adequate to meet the needs of students who will be taking courses face to face, on-line or using blended formats.

Recommendation

The SPPC recommends THAT:

Senate approve and recommend to the Board of Governors that it approve the proposed Bachelor of Arts in Integrated Studies Program in the Faculty of Arts. The Senate Committee on Planning and Priorities recommends that the Vice-President (Academic) not implement the program until satisfied that there would be sufficient existing space and funding to support the ongoing operation of the program.

Respectfully submitted,

James Blatz, Chair
Senate Planning and Priorities Committee :