Senate
Senate Chamber
Room 245 Engineering Building
Wednesday, January 7, 2004
1:30 p.m.

AGENDA

I MATTERS TO BE CONSIDERED IN CLOSED SESSION

II MATTERS RECOMMENDED FOR CONCURRENCE WITHOUT DEBATE

1. Report of the Faculty Council of Graduate Studies Regarding Course Changes — Page 17
2. Proposal to establish a Certificate in Intellectual Property and Technology Commercialization Management — Page 22

III MATTERS FORWARDED FOR INFORMATION

1. *In memoriam* - Vernon LeRoy Dutton, P.Eng. — Page 42
2. *In memoriam* - Professor Emeritus Mike Tarnawecky — Page 43
3. Report of the Senate Committee on Awards — Page 44
4. Statement of Intent: Ph.D. in Peace and Conflict Studies — Page 52
5. Statement of Intent: Ph.D. in Applied Health Sciences — Page 59

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 DECEMBER 3, 2003

VII BUSINESS ARISING FROM THE MINUTES

1. Correspondence from the Acting University Secretary — Page 71

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

1. Report of the Senate Executive Committee — Page 72
2. Report of the Senate Planning and Priorities Committee
   a) The Chair will make an oral report on the Committee's activities.
   b) Report on a proposed site for a new building for Pharmacy (with facilities for the Faculties of Medicine and Dentistry) — Page 73

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

X ADDITIONAL BUSINESS

XI ADJOURNMENT

Please Call Regrets to 474-6167.

/jml

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Preamble

The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing graduate course deletions, modifications and introductions and makes recommendations to FGS Council. PPC met on September 15 and made the following recommendation regarding changes to course numbers in the Department of Occupational Therapy.

Observations

1. Currently, all courses in the Master of Occupational Therapy program have "068" as their course number prefix (e.g. 068.610, (26 courses total)), which is the course number prefix for the School of Medical Rehabilitation.

2. Occupational Therapy is now classified as a Department. Prior to the implementation of the Master of Occupational Therapy program, Occupational Therapy was a division of the School of Medical Rehabilitation and as such, used the "068" course prefix code for their courses.

3. For administrative purposes, including statistical analysis, the Department requested the course number prefix be changed to "168".

4. A list of courses affected by the change is attached.

5. A Statement of Library support was not required, as the changes are administrative in nature.

Recommendation

The Programs and Planning Committee of the Faculty of Graduate Studies recommends that the Faculty Council of Graduate Studies approve the change in the Master of Occupational Therapy course prefix code from "068" to "168" affecting 26 courses in total.

Approved by the Faculty Council of Graduate Studies November 13, 2003

Comments of the Senate Executive Committee:

The Senate Executive Committee endorses the report to Senate.

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Preamble

The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies has the responsibility of reviewing graduate course deletions, modifications and introductions and makes recommendations to FGS Council. PPC met on October 20 and made the following recommendation regarding the introduction of graduate courses in the I.H. Asper School of Business; and, the introduction and deletion of graduate courses in the Faculties of Arts, Medicine and Science.

Observations

1. There is one course to be introduced in the I.H. Asper School of Business.
2. The Department of Accounting and Finance and the I.H. Asper School of Business approved the course introduction.
3. A Statement of Library support for the proposed course indicated that the Libraries would be able to support the course.
4. There is one course to be introduced in the Department of History.
5. The Department of and History and the Faculty of Arts approved the course changes.
6. A statement of Library support for the proposed course indicated that the Libraries would be able to support the course.
7. There is one course to be introduced in the School of Medical Rehabilitation, and one course to be deleted and one course to be introduced in the Department of Medical Microbiology.
8. The School of Medical Rehabilitation, the Department of Medical Microbiology and the Faculty of Medicine approved the course changes.
9. Statements of Library support for the proposed courses indicated that the Libraries would be able to support each of the courses.
10. There are five courses to be deleted and six courses to be introduced in the Department of Botany, five courses to be deleted in the Department of Chemistry and one course to be deleted in the department of Physics and Astronomy.
11. The Departments of Botany, Chemistry and Physics and Astronomy and the Faculty of Science approved the course changes.
12. Statements of Library support for the proposed courses in Botany indicated that the Libraries would be able to support each of the courses.
13. Reasons for the course changes accompany the course numbers and titles below.

Recommendation

The Programs and Planning Committee of the Faculty of Graduate Studies recommends that the Faculty Council of Graduate Studies approve the course changes as indicated below.

Copies of course proposals are available in the Faculty of Graduate Studies Office for review

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

ACCOUNTING AND FINANCE

Course to be introduced:

009.7xx International Finance (3) The theory and practice of financial management in an international context. Includes foreign currency markets, exchange rates, measurement and management of foreign currency risk, international financing, and foreign direct investment. *Prerequisite:* 009.607

Reasons for the introduction:

International Finance is a growing field of interest for students and there is a high demand for this type of course in the MBA.

Net Change: +3 Credit Hours

HISTORY

Course to be introduced:

011.7xx History of Aboriginal Rights (6) A study of Aboriginal rights from early contact to the present with a particular emphasis on treaties, the courts, and Aboriginal efforts to enforce specific forms of rights.

Reasons for the introduction:

Provides graduate study on the field examining Aboriginal people's responses to the European arrival and their efforts to ensure certain rights in the new order.

Net Change: +6 Credit Hours

MEDICAL REHABILITATION

Course to be introduced:

068.7xy Assistive Technology (3) A theory and practice course designed to develop an advanced understanding of the application of technology for individuals with disabilities as a means to occupation. Particular emphasis will be on evaluating the impact and understanding the theory guiding the use of assistive technology, and developing an understanding of the contexts in which assistive technologies are used.

Reason for the introduction:

To broaden the scope of the existing M.Sc. program.

Net Change: +3 Credit Hours

MEDICAL MICROBIOLOGY

Course to be deleted:

097.718 Seminars in Medical Microbiology (3)

Reasons for the deletion:

The journal clubs and seminars will be mandatory for students as outlined in the Departmental Supplemental Regulations, no longer requiring the course to be offered for credit.

Copies of course proposals are available in the Faculty of Graduate Studies Office for review

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Course to be introduced:

097.7xx The Ecology of Infectious Diseases (6) Explores the study of infectious diseases in a global context from the perspective of biomedical, clinical, heath systems/services and social, cultural and environmental determinants of health and disease. The course features didactic, self-directed reading and interactive small group sessions.

Reasons for the introduction:

The course will enrich the graduate program. The topics are contemporary and the Department, along with guest speakers, has the necessary expertise to deliver the material in a way that will both interest and challenge the student.

Net Change: +3 Credit Hours

BOTANY

Courses to be deleted:

001.713 Advanced Plant Ecology (6)
001.731 Fungal Genetics in Relation to Host-Parasite Interactions (6)
001.740 Problems in Plant Physiology (3)
001.742 Data Collection and Microtechniques Part I (3)
001.743 Data Collection and Microtechniques Part II (3)

Reasons for the deletions:

Outdated and/or infrequently offered courses are being removed from the program.

Course to be introduced:

001.7xy Molecular Biology for Plants and Fungi (3) Techniques for the collection, culturing and preservation of plants and fungi. Extraction, diagnostic and recombinant DNA Theory for nucleic acids in plants and fungi, Bioinformatics, analysis and interpretation of biological data. Not to be held with the former 001.742.

Course to be introduced:

001.7xx Plant Molecular Development (3) Analysis of plant development at the molecular level. Recent advances in model systems will be highlighted including seedling, root, shoot and flower development as well as environmental responses. *Prerequisite:* permission of the department. Offered in 2005-2006 and alternate years thereafter.

Course to be introduced:

001.7xz Plant Stress Physiology (3) Current topics on plant responses to environmental stress at the physiological and biochemical levels. Laboratory will consist of supervised projects in the above areas. Offered in 2004-2005 and alternate years thereafter. *Prerequisite:* permission of the department, 001.301 or 039.350, and 002.237 (060.237) or 002.278 (060.278).

Course to be introduced:

001.7bb Advanced Plant Ecology (3) Examines the ecology of interactions between plants and their biotic

Copies of course proposals are available in the Faculty of Graduate Studies Office for review

environment. Students are expected to critically examine new developments in these fields.

Course to be introduced:

001.7aa Fungal Symbiosis (6) Lectures, seminars, and assigned readings discussing a diversity of fungal interactions with plants, protists, insects and other fungi. Emphasis will be on the evolution of fungal systems ranging from mutalism to parasitism.

Course to be introduced:

001.7cc Microtechniques in Plant Biology (3) Techniques for the preparation and microscopic examination of components of plant and fungal tissues and cells. Not to be held with the former 001.743. Offered in 2005-2006 and alternate years thereafter.

Reasons for the introductions:

The new offerings reflect modern plant biology and the graduate courses are now articulated with the undergraduate program.

Net Change: 0 Credit Hours

CHEMISTRY

Courses to be deleted:

002.701 For M.Sc. (0)
002.702 Advanced Textile (0)
002.703 Organic (0)
002.725 Quantum Theory (6)
002.734 Organometric Chemistry (3)

Reasons for the deletions:

Outdated and/or infrequently offered courses are being removed from the program.

Net Change: -9 Credit Hours

PHYSICS AND ASTRONOMY

Course to be deleted:

016.718 Quantum Mechanical Chemistry (6)

Reasons for the deletion:

Outdated and/or infrequently offered courses are being removed from the program.

Net Change: -6 Credit Hours

Approved by the Faculty Council of Graduate Studies November 13, 2003

Copies of course proposals are available in the Faculty of Graduate Studies Office for review

Continuing Education Division
Office of the Dean
166 Continuing Education Complex
Phone: (204) 474-8010
Fax: (204) 474-7660
Email:perciva@ms.umanitoba.ca

Memorandum

To: Jeff Leclerc, Office of the University Secretary, 314 Administration Bldg.

From: Anne Percival, Dean, Continuing Education Division

Date: 11/26/2003

Re: **Certificate in Intellectual Property and Technology Commercialization Management**

Attached is the Proposal for a Certificate in Intellectual Property and Technology Commercialization Management approved at CED Council meeting of November 26, 2003 for concurrence without debate at the next meeting of Senate Executive (December 10, 2003). The Chair of the CED Program Review Committee, Dr. Bill Kops and/or the developer of the proposal, Dr. Atlanta Sloane-Seale will be prepared to attend the meeting of Senate Executive to speak to the proposal. For a brief description of the program, including a rationale for the selected credential please refer to Item 1.4 in the proposal.

/sb

Attachment

cc: Bill Kops, Atlanta Sloane-Seale

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

Covering Checklist for a Certificate Proposal forwarded to Senate for Concurrence without Debate

Name of Proposed Certificate: Certificate in Intellectural Property and Technology Commercialization Management

Sponsoring Unit: Continuing Education Division

Date of Unit Council Approval: November 26, 2003

In the development of this proposal:

1. Were the following Units consulted?

a) Information Services and Technology? ☒ Yes ☐ No

b) Libraries? ☒ Yes ☐ No

c) Other Academic Units? ☒ Yes ☐ No

*The answer to each of the above questions must be yes. All relevant letters of support must be included with this checklist.

2. Does this Certificate proposal meet the following criteria, as set out in the Taxonomy on Non-Degree Programs?

a) Is the proposed Certificate program comprised of not less that 180 contact hours and not more than 400 contact hours?

☒ Yes ☐ No

b) Are the admission requirements for the proposed certificate the same as those for university entrance?

☒ Yes ☐ No

c) Will at least 50% of the instructional contact hours be delivered by the University of Manitoba?

☒ Yes ☐ No

d) Are transfer of credit guidelines clearly articulated in the proposal?

☒ Yes ☐ No

* The answer to each of the above questions must be yes.

A copy of the formal proposal must be included with this checklist.

Formal Proposal

Certificate in Intellectual Property and Technology Commercialization Management (IPTCM)

Dr. Atlanta Sloane-Seale
Associate Professor & Program Director
Management Professional & Community Programs

November 20, 2003

1 Introduction

1.1 What is the title of the proposed program?

Certificate in Intellectual Property and Technology Commercialization Management (IPTCM)

1.2 What type of credential is being proposed (i.e., a Certificate Program, Letter of Accomplishment, etc.)?

A Certificate Program is being proposed.

1.3 Is this a new program or major revision to an existing program?

This is a new program.

1.4 Provide a brief description of the program, including a rationale for the selected credential.

There is an education and training gap in the intellectual property and technology commercialization sector. In order to address this need, The University of Manitoba's Office of the Vice-President (Research) Intellectual Property Advice and Technology Assessment (IPATA) approached the Continuing Education Division about assisting in the development of a certificate to address the educational needs of intellectual property and technology transfer professionals, and creating a pool of formally trained professionals.

The IPTCM Certificate would consist of a blend of courses in intellectual property and technology commercialization and in management that may be taken in any order except where prerequisites apply (i.e., TCM Level 1 may be taken before IPM Level 1). The certificate would consist of four core courses of 144 hours and two elective courses (chosen from a list of management courses in Management, Professional and Community Programs) of 72 hours for a total of 216 contact hours of instruction. The core courses are outlined as:

1. Intellectual Property Management – Level I (36 hours)
2. Intellectual Property Management – Level II (36 hours)
3. Technology Commercialization Management – Level I (36 hours)
4. Technology Commercialization Management – Level II (36 hours)

Additionally, students would elect two courses from the following list of MPCP courses:

1. Introduction to Marketing (36 hours)
2. Canadian Business Law (36 hours)
3. Using Accounting Information (available in independent study format) or Managerial Accounting (36 hours)
4. Financial Management (36) or Business Finance (36)
5. Introduction to Canadian Business or Essentials of Management (available in independent study format) (36 hours)
6. Other approved electives (36 hours)

This comprehensive program will be formally evaluated and graded using the University of Manitoba's grading system. According to the University of Manitoba *Non degree Programs: Taxonomy*, the program meets the criteria for a Certificate, therefore, the Continuing Education Division will award a Certificate.

1.5 Identify the academic unit(s) within the Division proposing the program.

Management, Professional and Community Programs (MPCP) is proposing the program.

1.5.1 If appropriate, identify other academic units within the University or external agencies that are partners to this proposal and describe the roles, responsibilities, and expectations of these partners in the development and delivery of the proposed program.

The Certificate in Intellectual Property and Technology Commercialization Management (IPTCM) is developed in partnership with the University of Manitoba's Office of the Vice-President (Research) Intellectual Property Advice and Technology Assessment (IPATA), and the Continuing Education Division. IPATA funds the face-to-face development in its entirety, provides input on development, marketing, and content as required, as well as staff time to facilitate development of the certificate. Members of IPATA, and Faculties of Management and Law hold content expertise. In addition, members of the Advisory Committee, including representatives from MPCP, IPATA, faculty members of Management and Law, and external local industry experts involved in technology transfer and commercialization provide input and advice on developing the curriculum, selecting instructors from a pool of recognized industry experts, identifying the potential participants, overseeing program content to ensure the program remains current and relevant, initiating program evaluation and needs assessment as required, and marketing the program (*See Appendix I: Letters of Support, Appendix II: Advisory Committee members, and Appendix III: Terms of Reference*).

1.5.2 Describe specifically the role(s) of the Program Developer(s) submitting the program proposal.

The Program Director is responsible for all aspects of program quality, including the program's design, development, delivery, evaluation, budget, marketing, and all matters related to program requirements and instructional quality. These roles may include:

- Working with content specialists and instructional designer to develop course outlines;
- Organizing the case studies with content specialist and instructional designer;

- Working with content specialists and instructional designer to develop students' assessments, assignments, and course evaluations;
- Establishing administrative procedures for registration and administration of the program;
- Preparing the formal proposal, financial and marketing plans;
- Supporting and approving the designers' work;
- Conducting any required market research;
- Chairing committee meetings;
- Obtaining certificate approval; and
- Liaising with partners.

The partnership sees CED as the academic unit that develops and delivers the program, including making decisions with respect to scheduling of courses, cancellation of courses, students' progression in the program, instructors' stipends, and class size.

1.5.3 Name of Program Developer(s) submitting program proposal.

Dr. Atlanta Sloane-Seale, Associate Professor & Program Director

1.6 Is the program intended to be ongoing or one that will be offered for a limited period of time? Explain.

The program is intended to be on going based on market demand.

2 Needs Assessment

2.1 Describe the assessment or consultation process used to identify the intended audience, their educational needs, their demand for the program, and potential supports and barriers to participation. Do not discuss the results of the process. Explain why this method was selected and what method was used to ensure that the information collected is credible.

The content knowledge of the industry and the educational needs of the participants are predominantly resident within the IPATA. However, an Advisory Committee consisting of industry experts involved in technology transfer and commercialization, and members of CED, IPATA, and Faculties of Management and Law, has been established to provide direction in the development and ongoing management of the program. Accordingly, the needs assessment for this program, both as it relates to the size of the market, demand, and the educational needs of the participants, is based on the knowledge and advice of IPATA, the Advisory Committee, and contacts with key stakeholders in the industry.

The methods used to gather the information and educational needs and demand for the program include Internet and literature search, and telephone surveys/interviews with key industry experts and informants.

Federal Partners in Technology Transfer (FPTT) provide Technology Transfer, Technology Commercialization and Intellectual Property

Management programs, including seminars and workshops. However, these are not comprehensive certificate programs. There are at least two programs offered in the United States; the University of Washington has an Intellectual Property Management Certificate Program that focuses on intellectual property, and consists of three core 30-hour courses; and the University of Baltimore offers a Graduate Certificate in Technology Commercialization that focuses on technology commercialization, and contains four core courses. Our proposed program combines both areas, that is, IP and TC. In Canada, Ontario and Alberta based MBA programs with a specialization in Technology Transfer are expensive and often do not have a comprehensive intellectual property component. The University of Victoria, Continuing Education offers an International Intellectual Property Certificate Program geared for lawyers, and focused only on intellectual property. Westlink's Technology Commercialization Internship two-year, full-time, on-the-job training program gives interns a good foundation in the scope of issues that affect successful commercialization of early stage inventions, and provides training that can be highly variable in the topic areas addressed. Although the Westlink's Technology Commercialization Internship Program may overlap with some of the topic areas in our program, interns are unlikely to be exposed to the detailed explanation of each of the topics that can be provided in a classroom setting. There is no comprehensive program in intellectual property and technology commercialization available in Manitoba that would meet the needs of professionals in this industry.

Feedback from Advisory committee members as well as telephone surveys/interviews with 13 out of 15 relevant stakeholders (i.e., 87% response rate), including seven (out of 14) cornerstone companies (i.e., the major biotech, pharmaceutical, and Agri-food companies such as Apotex Fermentation, Cangene Corporation, Vivential Biotech, Genesys Venture, Biovail Corporation, Kade Research Ltd., and Monsanto Canada that are the fastest growing companies in production, manufacturing, and employment), investors, post-secondary research institutions, and government concur with the literature and internet search with respect to the lack of comprehensive formal educational programs, and suggest that there is need and demand for a program in Intellectual Property and Technology Commercialization (*See Appendix IV: Summary Results of Telephone Survey to Stakeholders*).

2.2 Describe the characteristics of the intended audience, including its size, educational level, employment factors related to the audience, and potential supports for and barriers to participation.

Target audience may include professionals such as executives involved in business development, management of assets, or marketing research; lawyers who want to enter IP practice; professionals who have responsibility for managing contracts, patents and license agreements, especially in information technology, engineering, bioengineering,

biotechnology, and pharmaceutical industries; paralegals, MBAs, engineers, scientists and business development practitioners who wish to understand rights and how the management of those rights can build value for a business; and executives and managers who are in transition from products-based to rights-based businesses. In short, the target audience may include: Managers, Inventors, Lab researchers, Lawyers, Engineers, graduate students in Technology, Liberal Arts, Science or Business, and Entrepreneurs.

We anticipate significant participation from the following intellectual property and technology commercialization professionals:

- Those who work in technology transfer at a University, R&D laboratory, incubator, or science park;
- Those involved in government or commercial research development;
- Those involved with science and technology in government or industry;
- Those wanting to learn how to start and operate technology ventures, as new start-ups, spin-off companies, or within growth-stage existing organization; and
- Those seeking a career in intellectual property and technology commercialization management (there were over 400 applicants for 20 spaces in the Westlink Technology Commercialization Internship Program).

Participants would typically have a first degree (e.g., B.A., B.Sc., LLB., B.Comm., or Engineering), or a Community College diploma (e.g., Arts, Sciences, Business, or Technology), or a University Certificate (e.g., Business, Technology, or Humanities), or experience in the industry. Potential students may be employed in a number of research-intensive companies that require IP & TC, both at the early and growth stages of development. They will be likely from the following groups and organizations: Westlink Technology Commercialization Interns across Western Canada; Industry Associations (e.g., HCPAM, Incubator Association); Investment/Finance (e.g., Crocus Investment Fund, ENSIS Growth Fund, Western Life Sciences Venture Fund, and Wellington West Capital), Incubators (e.g., Genesys Venture Inc., Incubat, Lombard Life Sciences, and NRC - Industrial Partnership Facility); Research Institutions (e.g., St. Boniface Hospital Research Centre, Cancer Care, HSC, Canadian Blood Bank, I.H. Asper Clinical Research Institute, Manitoba Institute of Child Health, Institute for Biodiagnostics, TRLabs, Canadian Science Centre for Human and Animal Health, Food Development Centre, Agriculture and Agri Food Canada, Department of Fisheries and Oceans, Industrial Technology Centre, and Richardson Centre for Functional Foods and Nutraceuticals); individuals working in the area of IP and tech transfer in Post-secondary Institutions (e.g., University of Winnipeg, and Red River College); and business, science, and engineering students with an opportunity to work in university commercialization offices.

In Manitoba, in the Biotech/pharmaceutical sector, there are 37 companies involved in production and product development that employ 1,700 employees. Of these companies, seven are considered cornerstone companies (cornerstone companies are considered the key companies with the fastest growing in production, manufacturing, and employment) with early potential for substantial expansion, and an estimate of 900 employees. There are 20 research and development companies and institutes linked to the biotech sector that are primarily involved with health and Agri-food components. These companies employ approximately 1,800 employees. Of these seven are considered cornerstone entities with strong potential for leading new activities in the biotech sector with an estimate of 1,100 employees. There are approximately 2,000 employees from the cornerstone companies, and an estimated 40% would be potential participants for the program. An estimated 30% of the 1,500 employees of the 43 non-cornerstone companies would also benefit from the program. Therefore, the potential size of the local professional target audience is 1,250.

The data suggests that there is high demand for a comprehensive educational program in this field. Key informants and stakeholders endorse the development of the program that would be initially available in a face-to-face, compressed format such as weekends, institutes, and/or evenings format. Support may be in time off, tuition reimbursement, and recognition of the program. Learning through case studies, projects, lectures, on weekends, evenings, and institutes are recommended options. Potential barriers to participation may be time, busy work schedules, and a dispersed market hence the design of the program will initially include face-to-face, with the use of WebCT option to be developed once the program has been offered in a face-to-face format once and funds have been generated from the face-to-face delivery. Tuition fees were not identified as a significant barrier if the program is relevant, useful, and meaningful.

2.3 Referring clearly to data from the assessment/consultation process, identify discrepancies between the audience's current educational capabilities and desired capacities. Distinguish between the discrepancies identified by potential learners (i.e., felt needs) and by key informants (e.g., employers, association leaders, academic units' ascribed needs). Describe limitations on the ability to identify felt and/or prescribed educational needs and market demand. How will these limitations be addressed during the early delivery process?

The needs assessment and consultation processes with key informants and stakeholders independently confirmed the list of ascribed educational needs that was initially defined by IPATA, and the Advisory Committee members. These ascribed educational needs that key informants and stakeholders identified were validated through informal discussions with a small number of potential learners who are currently employed in the

field. There was remarkable consensus between key informants and stakeholders and participants' definition of educational needs.

3 Design and Delivery

3.1 Describe the method used to develop the program and course design (e.g., focus groups, advisory committee, literature review, programs offered elsewhere). Explain the reason for this approach.

Section 2.1 describes the methods used to identify the educational needs and demand, program design, program objectives, and target audience. Advisory Committee members in consultation with key informants and stakeholders used the literature and internet search, formal needs assessment, and content experts to construct the structure of the program, including the core and elective courses, admission and registration requirements. Content experts completed the course descriptions, learning objectives, instructional methods, and student assessment. The Advisory Committee reviewed the formal proposal before it was submitted to the Continuing Education Division for approval. This method was used because the content knowledge of the industry and the educational needs of the participants are predominantly resident within the IPATA, Advisory Committee members, key stakeholders, and informants.

3.2 Describe the program structure and objectives including course/module titles, descriptions, contact or equivalent hours, required and elective courses, prerequisites, and expected course progression.

Section 1.4 describes the proposed certificate program. The IPTCM Certificate would consist of a blend of courses in intellectual property and technology commercialization and in management. The certificate would consist of four core courses of 144 hours and two elective courses of 72 hours for a total of 216 contact hours of instruction. Intellectual Property Management—Level I is a prerequisite for Intellectual Property—Level II, and Technology Commercialization Management—Level I is a prerequisite for Technology Commercialization Management—Level II. There is no prerequisite requirement between IPM and TCM (i.e., TCM courses can be taken before IPM courses).

A brief description of each course is provided. (For detailed information on courses see *Appendix V: Course Outlines*). The proposed certificate is designed to meet the formal education needs of this growing profession through the following overall and specific learning objectives.

Overall objectives of the certificate are to:

- Afford those currently working in the field a means to augment their skills and formalize their training in fundamental and advanced topics in Intellectual Property and Technology Transfer Management, as well as create an opportunity to equip new candidates with an in-depth and truly functional knowledge of the field through the use of applied case studies and projects. Importantly, it would provide an authoritative

credential that can stand as an educational benchmark within the industry;

- Supplement the work practicum of programs such as the Westlink Internship Program, by offering an accredited, evaluative education with in-depth training in intellectual property issues. While on the job internship programs can be valuable, they often produce an uneven learning experience. The certificate program will address this, and in combination with work placement programs will produce a very potent learning opportunity;

Specific learning objectives are that upon completion of this program graduates will be introduced to the knowledge and skills required to:

- Assess the technical and market feasibility for innovations developed through basic and applied research;
- Identify and protect intellectual property;
- Raise investment capital; and
- Market new products, processes and services.

Core Courses

1. **Intellectual Property Management – Level I (36 hours)**
   (Level I is a prerequisite for Level II)
   This course will cover a general overview of intellectual property, what it is, why it is protected, types of protection; patents, trade secrets, trademarks, copyright, industrial designs, plant breeder's rights; application preparation and prosecution; patent searches, novelty, disclosure, ownership and inventorship, patentability; claims drafting, infringement, and protection of software-based inventions.
2. **Intellectual Property Management – Level II (36 hours)**
   (Level I is a prerequisite for Level II)
   This course will cover patent application strategy - novelty search, when to file, what to file, where to file, documents needed for filing; international application vs. individual countries; patent strategies - what is accomplished by filing the application, cost vs. value, defensive filings, narrow applications, umbrella applications, costs of other types of protection; patent prosecution process - obviousness objections, combined references, when to request exam, value of uniformity of claims; US Patents - prosecution, interference, CIPs, information disclosure requirements; Europe and Canada - patentable subject matter, rules, patent application process; and infringement - reading claims to determine infringement, defenses against infringement, due diligence - preparing IP for transfer, licensing, financing, and freedom to operate.
3. **Technology Commercialization Management – Level I** (36 hours)
   (Level I is a prerequisite for Level II)

This course will cover how to determine the market for early stage technology; evaluating the business opportunity - does the technology fill an unmet need, does it differ from current technology, what is the IP potential, overall market strength; commercialization options - sell, license, startup; valuation of technology based on IP; financial analysis methods, budgeting; and market research specific to early stage technologies.

4. Technology Commercialization Management – Level II (36 hours)
   (Level I is a prerequisite for Level II)
   This course will discuss the following topic areas: ways to decide if an idea has the potential to be a successful new product; IP development and commercialization; negotiation strategies, contracts (license, research, material transfer, non-disclosure, assignment); business concept plans for early stage research ventures, business plans for early stage research, start up companies; and financing business ventures, sources and types of capital, raising investment and business capital, capital structures, business growth, equity funding, dilution, and risk analysis and management.

Elective Courses

Additionally, students would elect two courses from the following elective list from MPCP course offerings:

1. Introduction to Marketing (36 hours)
2. Canadian Business Law (36 hours)
3. Using Accounting Information (available in independent study format) or Managerial Accounting (36 hours)
4. Financial Management (36) or Business Finance (36)
5. Canadian Business: An Introduction or Essentials of Management (available in independent study format) (36 hours)
6. Other approved electives (36 hours)

3.3 Provide a clear rationale for the program structure and objectives (3.2) outlined above by explaining how, and to what extent, it addresses the needs of the intended audience and obstacles to participation.

Section 2.2 describes the needs of the target audience and barriers to participation, and Section 3.2 details the structure of the program that is designed to meet the educational needs of the target audience. The program consists of core and elective courses, and face-to-face delivery with compressed formats such as weekends, Institutes, and evenings to address the educational needs of the participants.

3.4 Identify the teaching methods and delivery format. Will flexible study be used in this design (i.e., multiple strategies, methods, and delivery systems)? Explain the methods used and why they have been selected.

Section 3.3 describes and explains the teaching methods and delivery formats. The data suggest that face-to-face with case studies, projects, and

compressed formats such as weekends, institutes, and evenings were preferred. These methods will be incorporated in the design and delivery of the program. WebCT will be developed once the face-to-face format has been offered once, and there are funds generated from this delivery method for the WebCT development.

3.5 Identify the location where the program will be delivered?

The face-to-face courses will be delivered on-site at the University of Manitoba Fort Garry and University of Manitoba Downtown Campuses. These face-to-face components may also be delivered outside Winnipeg if sufficient registrations justify an off campus offering.

3.6 Are there any existing courses available elsewhere in the Division or University that could be used, or modified for use, in the program? If there are similar or related courses that are not being used, explain why.

There are no similar comprehensive programs offered at other Universities or Continuing Education Units. The University of Victoria, Continuing Education Division offers an International Intellectual Property Certificate program designed for Lawyers. The University of Manitoba, Faculty of Law offers a course in Intellectual Property that is theory based for law students. The Advisory Committee has examined these similar offerings and recommended that, where appropriate, relevant and high quality courses will be accepted as transfer courses into the program. In addition, MPCP's policy on Transfer Credit will apply in all cases.

3.6.1 Identify similar programs at other Canadian universities. Attach to the proposal the web page or calendar description of these programs.

Section 3.6 describes the similar program (*See Appendix VI: Similar offerings at Canadian University*).

3.7 Identify and provide course outlines for any existing courses offered by the Division or the University that will be accepted for credit in this program.

Continuing Education Division does not offer any courses similar to the required courses described in this program. The elective courses are all existing CED courses. The course outline for the course offered in the Faculty of Law is attached (*See Appendix VII: Faculty of Law Course Outline*). MPCP's policy on Transfer Credit will apply.

4 Resources

4.1 Describe the teaching personnel required in the program and their availability.

Instructors will be required to have a minimum of a Masters degree, and/or a professional designation in the field, including expertise in the content area, experience in teaching adults, and knowledge of adult learning principles. There are ample teaching resources available from

both the academic and professional communities. For instance, teaching resources may be drawn from IPATA, the Faculties of Management and Law, and the professional communities such as Incubators, Investment/ Finance, and Research Institutions.

4.2 What provisions are there for orientation, training, and development of personnel (i.e., instructors and support) required for the program?

The program does not require special orientation or professional development. All instructors will receive MPCP's *Instructor Handbook*, (and the Distance Education *Instructional Guide* as needed) and in consultation with the Program Director and the Advisory Committee members, will develop consistent standards and guidelines for curriculum development. All MPCP instructors may participate in workshops, seminars, and courses offered through the University Teaching Services (UTS) and the Certificate in Adult and Continuing Education (CACE).

4.3 Do adequate library resources exist to support the program? (Note: Letter(s) of Support from libraries if required.)

Library materials are available from a number of sources, including the Dafoe Library, the Faculties of Management and Law Libraries, and other governmental organizations, and research institutes. A letter from the Dafoe Library confirms its ability to support the program (*See Appendix VIII: Letter from the University Library Services*).

4.4 What instructional media resources are required to support the program? (Note: Letter(s) of Support if required.)

Communication Systems will provide, as necessary, any instructional media such as AV equipment as required for the program. No additional instructional resources are required.

4.5 What laboratory or field placement facilities are required to support the program? (Note: Letter(s) of Support if required.)

No laboratory or field placement facilities will be required to support the program. All participants will be working in their respective organizations, and companies, and will have access to their work settings to conduct, as necessary, any projects.

4.6 In the case of a diploma program describe unique University counseling and student advisory services that are not normally provided within the University faculties and departments. In the case of Letters of Accomplishment and Certificates, describe any counseling or student advising that is not normally provided by staff within CED or the Area.

No additional advising services will be required.

4.7 Describe any additional resources required for the delivery of the program.

No additional resources are required at this time for the face-to-face format. In the future, financial resources will be required for WebCT development of the courses.

5 Operations and Management

5.1 Advisory/Program Committee

There is a very strong, active network of professionals in the community, and the academic environment from whom the Advisory Committee members are drawn. The Advisory Committee members will enable the Continuing Education Division to keep the program current, relevant, and effectively market it.

5.1.1 Describe the membership and representation.

See Appendix II: Advisory Committee Members.

5.1.2 Provide the Terms of reference.

See Appendix III: Terms of Reference.

5.2 Describe conditions for admission, including selection criteria, selection process, and who has the authority to approve admission decisions.

To be admitted to the program, students will normally be required to have:

1. an undergraduate degree, or
2. A Community College Diploma in Arts, Science, Business or Technology, or
3. A University Certificate in Business, Technology, or Humanities, or
4. At least six months work experience in the IPM and TCM fields.

Other students who have not met the admission requirements but have experience in related fields (e.g., Finance, Law, and Marketing) will be considered for admission.

Students must complete the Application to Enter a Certificate Program Form for admission to the program, and Registration form to enter a course. Once students have met the Admission requirement, their Registration will be based on a first come first served basis. The Program Director, in consultation with the Advisory Committee, will have authority for admission decisions.

5.3 Explain transfer credit arrangements negotiated during the development stage. (A letter from the office with authority to approve transfer credit must confirm these arrangements). If transfer credit into the program varies from Division policy and procedures, explain the variance.

No degree credit transfer will be granted from the Faculties of Management and Law for the target audience. The Faculty of Law does not allow transfer credit, and the courses in the Certificate are not equivalent or similar to any of the courses offered in the Faculty of Management. Therefore, no degree transfer credit agreements were

negotiated. Course exemptions and transfer credit will be governed by the policies and procedures of the Continuing Education Division/MPCP.

5.4 What is the expected frequency of course offerings (continuous, sequential, intermittent)?

It is expected that the program will be offered on an on-going basis based on demand.

5.5 What is the minimum and maximum times for completion of the program?

It is expected that students will normally complete the program in a minimum of two years and a maximum of four years from first registration in the program.

6 Student Assessment

6.1 Describe the type of student assessment to be used.

Students will be evaluated using a number of methods, including but not limited to experiential exercises, written assignments, case studies, in-class presentations, and workplace based projects. Academic assessment will adhere to the regulations and requirements stated in the University's *Responsibilities of Academic Staff to Student* Policy and relevant Continuing Education Division/MPCP policies.

6.2 Describe the grading system (pass/fail, letter, numerical) to be used.

The University of Manitoba Letter Grade System will be applied. The Advisory Committee also recommends that the minimum passing grade for each course be C. Therefore, students must complete each course in the program with a minimum passing grade of C or higher and achieve an overall GPA of C+ or higher in order to receive the Certificate.

7 Program Evaluation

7.1 Describe the method (SEEQ or other) of course and instructor evaluation to be used.

SEEQ course evaluation will be used after each course is offered in the program. On-going informal debriefing with instructors will also form part of the instructors' evaluation. Evaluation information will be shared with instructors and used to make rehiring decisions.

7.2 Describe the frequency of course and program evaluations.

Section 7.1 describes the course evaluation process. Program evaluation involves a review of admission, registration, program completion, students and stakeholders' satisfaction, instructional quality, and cost effectiveness. MPCP reviews all its programs each year to identify those that require a full or partial evaluation. This program may be evaluated as one of several programs with common characteristics that MPCP wants to examine (e.g.,

cost effectiveness). A full review will compare actual performance with performance indicators and program objectives. Evaluation results are submitted to the Continuing Education Division's Program Review Committee (PRC) and Advisory Committee.

7.3 Identify performance indicators the Area will use to evaluate the program during the first three years of its operation.

This program paradigm supports the Division's mission in that it advances lifelong learning professional goals, is a collaborative project, and increases access to the educational resources of the university. The introduction of this program will help the Division address several of its strategic priorities. Strategic Priority 2 is addressed in that we are reaching out to new groups of learners in a manner that will serve the needs of their profession. Strategic Priority 3, Partnerships, is clearly met through the arrangement we have structured with IPATA. This strengthens our relationship with a unit on campus. In addition, the links to the industry will serve to develop external partnerships. Finally, any programming that we ultimately develop will address the Division's priorities of program quality and organizational effectiveness (financial viability).

The performance indicators that will be used to evaluate the program during the first three years are:

- Stable increase in total number of program registrations
- Stable increase in representation of a new demographic group
- Increase in number of university faculty and stakeholders actively affiliated with the program
- Cost effectiveness and full cost recovery after first offering of program
- Addition of alternative delivery methods
- Steady increase in number of new organizations represented by students
- Steady increase in number of external partners expressing satisfaction with program

8 Financial Plan

8.1 Program Developers are advised to consult with appropriate staff within CED and the University (e.g. academic units) to ensure that policies, procedures, and costs are considered. It is the Program Developer's responsibility to identify and document any modifications to registration systems and Area or Division policies and procedures that may affect delivery costs.

The policies, procedures, and cost associated with developing the face-to-face format have been identified and considered. At this point in time, no modifications to existing systems are required to deliver the program. WebCT will be considered once courses have been offered at least once in a face-to-face format, and funds have been generated for WebCT development.

8.2 Each new program (and major revisions to existing programs) must include a three-year business plan that includes projected revenue, registration, direct expenses, and time allocations including Central Services (i.e., contributions/deficits). The plan must be supported by reference to information obtained in the needs assessment/consultation process that considered market demand.

This new development is based on the following business plan and assumptions that are written into the notes of the budget (*See Appendix IX: Budget Proposal*). Funding is provided by IPATA for development and delivery of the face-to-face format. Development costs and return on investment will be based on face-to-face at this point in time.

Development costs and return on investment will be based on the following assumptions:

- Tuition fees are based on 36-~~Contact~~hours as the unit of analysis for $900 with an increase in fees in year three; and average registrations of 10 in each course in 2003-06, and 15 in subsequent years.
- Stipend including benefits and pay levy is based on $90 per hour.
- Staff allocations are based on costs for development and delivery, with cost recovery in year two, and net contribution in year three and a shift to the delivery side and reduction in Program Director's time allocation.
- Program Adm. Average salary: $45,809; Program Assist average salary: $36,400; Program Director average salary: $67,425.
- Student Services changes ($19.64/student); Finance ($62.76/section); Payroll $39.33/section); Office Management ($40.67/section); Downtown ($2.89/student); Marketing ($13/section); Reservation ($28.67/section); Telephone (1.0 FTE/$625); Computer usage (1.0 FTE/$1400); plus approximately $1,500 for marketing (contact brochure and postage); plus approximately $3,000 for materials.

8.3 The Financial Plan must be reviewed and recommended by the Area Director prior to submitting the Formal Proposal to the Area for discussion.

The Financial Plan has been reviewed and approved by the Area.

8.4 Describe any revenue/deficit sharing agreements that are proposed between the Division and partners to the program.

At this point in time, no revenue/deficit sharing agreements are proposed.

9 Marketing

9.1 Outline the marketing plan for the promotion and publicity of the program and explain how these will reach the intended audience.

Print based marketing, including contact brochures, MPCP marketing tabloid, the University's Continuing Education Division Web page, and flyers will be used. Free promotion in Associations and Institutes' Newsletters, Trade Shows, Conferences, and Public Service

Announcements will be utilized as well. Face-to-face Information Sessions will be conducted in conjunction with the Advisory Committee members.

References

Advisory Council on Science and Technology (1999) Expert Panel on Commercialization of University Research, *Public Investment in University Research: Reaping the benefits*, (pp. 29-30)
http://acst-ccst.gc.ca/acst/comm/home_e.html

Federal Partners in Technology Transfer see
http://www.fptt-pftt.gc.ca/TrainingInventory.html

Manitoba Innovation Framework (pp. 18, 35-36)
http://www.gov.mb.ca/est/

University of Baltimore, Graduate Certificate in Technology Commercialization
http://business.ubalt.edu/Entrepreneurship/aboutus/programs/certtechcomm.html

University of Washington, Intellectual Property Management Certificate Program
http://www.outreach.washington.edu/extinfo/certprog/inp/inp_main.asp

Westlink: http://www.westlink.ca/internship/WestLink_Internship.PDF.

IN MEMORIAM

VERNON LeROY DUTTON, P.Eng.

Vernon Dutton passed away in Winnipeg on November 14, 2003. Vernon was born and raised in Birtle, Manitoba, and received his primary education in Birtle, Foxwarren and St. Paul's College. He received his Bachelor of Science in Civil Engineering from the University of Manitoba, and Master's degree from Penn State University. He was awarded an Athlone Fellowship to work in Scotland and to study at Cambridge University. He joined the University in 1957 in the Faculty of Engineering where he taught in the Department of Civil Engineering until his retirement in 1982.

Vernon brought to the University a wealth of experience. He was responsible for the design and development of the hyperbolic paraboloid which continues to serve as the divers' shelter at West Hawk Lake.

Outside the university he will probably be remembered most for his untiring work with the scouting movement, notably as leader of troops in Fort Richmond and Fort Garry. Vernon was also an enthusiastic Winnipeg Amateur Radio Club member.

Vernon was a life member of the Association of Professional Engineers and Geoscientists of Manitoba (APEGM). For many years he was the person who greeted APEGM members at breakfast and lunch as member of the Professional Development Committee of APGEM. He was also a member of the APEGM'S Publications Committee *Keystone Professional* from 1986 until his passing.

Faculty of Engineering

IN MEMORIAM

MIKE TARNAWECKY

It was with sadness to learn of the death of Mike Tarnawecky on Saturday, October 11, 2003. He joined the Electrical Engineering Department in 1966 after nine years of industrial experience at Manitoba Hydro. He worked with Hydro at the time when the decision was made to develop Northern Hydro resources. He was seconded from Hydro to ASEA-Ludwika (Sweden) to learn the then new emerging technology of HVDC transmission. Upon his return to Manitoba he developed a training program in HVDC for Manitoba Hydro Engineers and participated in the planning of the new HVDC System. On joining the University of Manitoba, Mike was instrumental in starting undergraduate and graduate courses and research in Power Systems. These activities grew rapidly with the Department quickly gaining an international recognition in Power Systems Studies.

In his research Mike maintained a very close working relationship with industry. He has successfully supervised 35 graduate (Ph.D./M.Sc.) students.

Throughout the years Mike served in various roles on national and international technical/educational committees (notably Canadian Electric Association and CIGRE - International Conference on Large High Voltage Electrical Systems). He contributed heavily to the establishment of the Manitoba HVDC Research Centre, now a pride for Manitoba.

Mike retired in December 1991 and was named Professor Emeritus in January 1993.

Faculty of Engineering

SENATE COMMITTEE ON AWARDS REPORT TO SENATE - NOVEMBER 25, 2003

Report of the Senate Committee on Awards respecting Awards

Preamble

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

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

At its meeting on November 25, 2003, SCOA reviewed nine new awards offers, seven award amendments, and one award withdrawal and reports as follows.

Observation

On behalf of Senate, the Senate Committee on Awards approved and recommends that the Board of Governors approve nine new awards, seven award amendments and one award withdrawal as set out in Appendix "A" of the Report of the Senate Committee on Awards (dated November 25, 2003). These award decisions comply with the published guidelines of November 3, 1999, and are reported to Senate for information.

Respectfully submitted,

Diana Jaspersion (for)

Professor R. Baydack, Chair
Senate Committee on Awards

APPENDIX "A"

OFFERS

GOVERNOR GENERAL'S GOLD MEDAL

The Governor-General of Canada offers an annual gold medal called The Governor General's Gold Medal to recognize the outstanding performance of a graduate student. This award is based on overall academic excellence through coursework, research, awards and distinctions, letters of reference, external examiner's report and a description of the student's statement on the significance of their research.

Eligibility for the medal is open to all students who will be convocating with a Master's or a Ph.D. at Spring Convocation or who graduated the previous Fall at the University of Manitoba.

Each Faculty/Unit may nominate one Master's or Doctoral student for the Governor General's Gold Medal. Nomination packages must include:

(1) a letter from the Dean/Director of the Faculty/Unit giving a detailed rationale for the nomination

(2) the nominee's curriculum vitae

(3) official transcripts

(4) a brief statement (one page) from the nominee on the significance of his/her research and related achievements during the graduate program

(5) a letter of support from the advisor

(6) the report from the external examiner.

The selection committee will include the Dean and Associate Dean(s) of the Faculty of Graduate Studies and three members of the Executive Committee representing areas of Natural Sciences and Engineering, Social Sciences and Humanities and Medical and Health Sciences or designates. The Dean shall act as Chair.

DR. ROMAN (ROY) BILOUS SCHOLARSHIP

Mrs. Irene Marie Lewis (nee Bilous) has established an endowment fund at the University of Manitoba to honour her brother, Dr. Roman (Roy) Bilous. The fund will provide a scholarship for the purpose of encouraging and supporting students in the Faculty of Pharmacy. In 1943 Dr. Bilous, a Canadian citizen of Ukranian descent and the son of the late Aphtanazia Thomas and Genevieve Bilous, was the first recipient of the Gold Medal in Pharmacy awarded by the University of Manitoba. In 1972 Dr. Bilous received a Ph.D. degree in Pharmaceutical

Chemistry from the University of Wisconsin. He lectured in the Faculty from 1957 until his retirement at the end of 1987.

The scholarship, valued at $1,000, will be offered to an undergraduate student who:

(1) is enroled full-time in the third year of study in the Faculty of Pharmacy at the University of Manitoba;

(2) has achieved a minimum cumulative grade point average of 3.5;

(3) has obtained the highest academic standing in the Medicinal Chemistry subject stream (currently numbered 46.240 and 46.340).

At a time when the earnings on the fund permit and at the discretion of the selection committee, more than one scholarship may be offered in a given year or the amount may be increased. The Board of Governors of the University of Manitoba has the power to vary the conditions, in keeping with the wishes of Mrs. Lewis.

The selection committee shall be named by the Dean of the Faculty of Pharmacy.

FACULTY OF ARCHITECTURE ENDOWED SCHOLARSHIP

The Faculty of Architecture at the University of Manitoba seeks to assist promising students through the establishment of an endowed scholarship fund (initial capital balance of $26,000). The scholarships will reward excellence in the undergraduate program, Environmental Design, and in each of the professional programs, Architecture, City Planning, Interior Design, and Landscape Architecture. The annual income generated on the endowment fund will provide for scholarships to be awarded equally among the five programs.

The scholarships will be offered to students who:

(1) have completed at least one year of study in the Faculty of Architecture at either the undergraduate or graduate level;

(2) have achieved the highest standing among all students in their program (a minimum grade point average of 3.5 on all courses completed in the Faculty of Architecture);

(3) are enroled as full-time students in the Faculty of Architecture or Faculty of Graduate Studies (Faculty of Architecture) in the year in which the scholarship is tenable.

In the event that a recipient does not register as required, the awards will revert to the next candidate.

The selection committee shall be chaired by the Dean of the Faculty of Architecture (or designate) and shall include the Associate Dean (Research), Environmental Design Coordinator and the Heads of each Department (or designates).

FACULTY OF ARCHITECTURE ENDOWED BURSARY

The Faculty of Architecture at the University of Manitoba seeks to assist promising students through the establishment of an endowed bursary fund (initial capital balance of $24,000). The bursaries will provide financial assistance in the undergraduate program, Environmental Design, and in each of the professional programs, Architecture, City Planning, Interior Design, and Landscape Architecture. The annual income generated on the endowment fund will provide for bursaries to be awarded equally among the five programs.

The bursaries will be offered to students who:

(1) have completed at least one year of study in the Faculty of Architecture at either the undergraduate or graduate level;

(2) are enroled as full-time students in a program leading to a Bachelor of Environmental Design, Masters in Architecture, Masters in City Planning, Masters in Interior Design or Masters in Landscape Architecture;

(3) have achieved a minimum grade point average of 3.0 on all courses completed in the Faculty of Architecture;

(4) have demonstrated financial need on the standard University of Manitoba bursary form.

In the event that a recipient does not register as required, the award will revert to the next candidate. Should there be no suitable candidates in any year, the selection committee shall have the discretion to award the bursaries to students who may require emergency assistance or hold the funds until the next regular bursary application session.

The selection committee shall be chaired by the Dean of the Faculty of Architecture (or designate) and shall include the Associate Dean (Research), Environmental Design Coordinator and the Heads of each Department (or designates).

NORMAN RIPLEY MEMORIAL SCHOLARSHIP

An endowment fund of $4,500 has been established in honour of Norman Charles Ripley, an alumnus of the Faculty of Architecture at the University of Manitoba who passed away in 1991. This fund will provide a scholarship, valued at the available annual interest, to a graduate student in the Faculty of Architecture who:

(1) has registered as a full-time student in the graduate program in the Department of Architecture at The University of Manitoba;

(2) has achieved a minimum cumulative grade point average of 3.5 (or equivalent).

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

REINE-BANIUK MEMORIAL SCHOLARSHIP

An endowment fund of $30,000 has been established in memory of Rhonda Reine and Leonard Baniuk, graduate students in Computer Science at the time of their passing in 1978. The Manitoba Scholarship and Bursary Initiative has made a contribution to the fund.

The graduate scholarship, valued at ninety percent of the available annual interest, will be offered to a student who:

(1) is enroled in the Faculty of Graduate Studies in the Master's or Ph.D. program in Computer Science at the University of Manitoba;

(2) has achieved a cumulative grade point average of 3.5;

(3) is working in the area of Computational and Mathematical Computer Science (for example: graphics, statistical computing and stochastic modeling, graph theory, combinatorics).

The remaining ten percent of interest generated annually will be added to the principal to facilitate the continued growth of the fund. In future, the Financial Aid and Awards Office will have the discretion to review the growth of the fund and if appropriate, begin to offer the available annual interest for award.

The selection committee shall be named by the Head of the Department of Computer Science and shall include at least two faculty members who are working in the area of Computational and Mathematical Computer Science.

CHERYL LAMOUREUX MEMORIAL PRIZE

An endowment fund was established by the Department of English in memory of Cheryl Lamoureux, a graduate student in the department when she passed away in 1998. The fund has reached a capital balance of $3,000 and will now be used to support a graduate prize in the Department of English.

The prize, valued at the available annual interest, will be offered to a student who:

(1) is enroled full-time as a Master's student in the Faculty of Graduate Studies, Department of English;

(2) submits the most outstanding thesis proposal.

Preference will be given to proposals in the area of Canadian literature or gender studies.

The selection committee shall be named by the Head of the Department of English.

PHARMASAVE / MCKESSON BURSARY

Pharmasave Drugs Ltd. and McKesson Canada Corporation offer to contribute $2,000 annually for four years to provide assistance to students in the Faculty of Pharmacy at The University of Manitoba. Beginning with the 2004-2005 academic session two bursaries, valued at $1000 each, will be offered to students who:

(1) are enroled as full-time students in the fourth year of study in the Faculty of Pharmacy at The University of Manitoba;

(2) have achieved a minimum cumulative grade point average of 3.0;

(3) have demonstrated financial need on the standard University of Manitoba bursary form.

Pharmasave Drugs Ltd. and McKesson Canada Corporation will review their financial commitment to this award on an annual basis once the initial four-year commitment has been fulfilled.

In the event that no applications are received on the basis of financial need, the award can be offered to a student entering the fourth year of study on the basis of academic achievement in courses related to patient/primary care as determined by the Student Standing Committee.

The selection committee for this bursary shall be the Student Standing Committee of the Faculty of Pharmacy.

JOEL NITIKMAN AND LINY CHAN ENTRANCE AWARD

Joel Nitikman and Liny Chan have established an endowment fund of $25,000, which is matched by the Manitoba Scholarship and Bursary Initiative to create a $50,000 fund to provide bursary support for a qualified student entering the first year of study at the Faculty of Law, University of Manitoba.

Joel Nitikman is a 1985 graduate from the University of Manitoba Law School and was the recipient of the University of Manitoba Gold Medal in the Faculty of Law. He is currently a tax partner with a national Canadian law firm in Vancouver where he lives with his wife Liny Chan. Mr. Nitikman considers his years at the Law School as the basis on which his legal career has been established. Mr. and Mrs. Nitikman wished to establish this award to encourage applicants to attend the Faculty of Law at the University of Manitoba.

This award is intended to provide financial assistance to a student who accepts an early offer of admission from the Faculty of Law at the University of Manitoba.

The annual award, valued at $2,500, will be offered to a student who:

(1) applied for admission to the Faculty of Law at the University of Manitoba and met the required standards for admission;

(2) accepted the offer of admission on or before July 1st in the year of application;

(3) submits a personal application, including a bursary application form demonstrating financial need, to the Faculty of Law.

The selection committee will be the Faculty of Law's Bursaries Committee.

AMENDMENTS

JANET FABRO McCOMB AWARD

The terms of reference for this graduate award will be amended to include students in the Department of Human Nutritional Sciences who are enroled in an Individual Interdisciplinary Program.

JELD-WEN FOUNDATION SCHOLARSHIP

This scholarship in the Faculty of Engineering will undergo one amendment. Currently the terms indicate that it is at the discretion of the selection committee whether one scholarship of $2,000 (U.S.) or two scholarships of $1,000 (U.S.) will be offered annually. This will be amended to reflect that two scholarships of $1,000 (U.S.) will be awarded annually; one for a student in the Mechanical Engineering program and one for a student in the Manufacturing Engineering program.

JAMES GORDON FLETCHER Ph.D. FELLOWSHIP
(for Research in Functional Foods and Nutraceuticals)

The terms of reference for this graduate award will be amended to clarify that students who transfer from a M.Sc. program into a Ph.D. program are to be considered eligible for the award. For this award only, the time frame considered for transfer students will begin at the point of transfer into the Ph.D. program.

UNIVERSITY OF MANITOBA DISTINGUISHED DISSERTATION AWARD

This graduate award will undergo several amendments. First, the award will consist of a Citation Certificate which will be awarded at an award luncheon hosted by the Faculty of Graduate Studies. There will no longer be a monetary component. Second, a total of three awards were originally offered, one in each of three general categories. This will be amended to reflect that each Faculty/ School will be eligible to forward one nomination to the Faculty of Graduate Studies for verification of eligibility to receive the Citation Certificate. A nominee need not be submitted if there is no qualified candidate.

HOLMFRIDUR KRISTJANSSON GRADUATE AWARD IN NUTRITION

The terms of reference for this graduate award will be amended to include students in the Department of Human Nutritional Sciences who are enroled in an individual Interdisciplinary Program.

UNIVERSITY WOMEN'S CLUB OF WINNIPEG GRADUATE SCHOLARSHIP

The terms of reference for this graduate scholarship will undergo two amendments. First, it will be clarified to indicate that students intending to pursue study in either a Master's or Ph.D. program will be considered for the scholarship. Second, the terms of reference currently state that the selection committee is to be named by The Senate of the University of Manitoba. This will be amended to the Dean of the Faculty of Graduate Studies.

ASTRAZENECA CANADA INC. SCHOLARSHIP

The terms of reference will be amended to reflect that AstraZeneca has extended their initial three year commitment that ended in 2003 for an additional three years ending in 2006. The new commitment will be reevaluated at the end of this three year term. The terms of reference will also be amended to include for consideration students pursuing a Major program in either Chemistry, Biochemistry, or Biotechnology in the Faculty of Science. The award was previously only open to students pursuing an Honours program these areas.

WITHDRAWAL

T.A.W.L. GROUP WINNIPEG AWARD

This award in the Faculty of Education is being withdrawn at the request of the donor contact.

208 Administration Building
Winnipeg, Manitoba
Canada R3T 2N2
Fax (204) 275-1160

UNIVERSITY OF MANITOBA | Office of the President

14 November 2003

Ms Louise Gordon
Acting Executive Director
Council on Post-Secondary Education
410 - 330 Portage Avenue
Winnipeg, Manitoba R3C 0C4

Dear Ms Gordon,

Statement of Intent:
Ph.D. in Peace and Conflict Studies

On behalf of The University of Manitoba, I am pleased to submit the attached Statement of Intent to establish a new interdisciplinary Ph.D. program in Peace and Conflict Studies.

This innovative program will offer advanced students access to a unique interdisciplinary, research-based doctoral program drawing on academic resources currently housed in a variety of Departments and Faculties. Students would be required to complete a common set of core courses in Peace and Conflict Studies. In addition, students would complete other graduate-level courses in areas of their particular interest. Overall, the program will encompass the analysis of resolution of conflicts; peace research that examines the root causes of violence, social conflicts, and social inequalities; and a commitment to community-building and social justice.

This new program is expected to attract half a dozen students each year, from within Canada and from other countries. Students will have completed Masters degrees in one of a variety of disciplines, and this will facilitate the interdisciplinary nature of the Peace and Conflict Studies program. Employment opportunities for graduates are likely to be found in universities, governments, and international agencies.

Much of the resource needs of this new program are now in place. Nonetheless, it is possible that modest additional resources will be requested in the full program proposal.

I will be pleased to provide any other information that your Council may require during its consideration of this Statement of Intent.

Sincerely,

Richard A. Lobdell
Vice-Provost (Programs)

RAL/dg

Encl.
cc Emőke J. E. Szathmáry, President and Vice-Chancellor
Robert Kerr, Vice-President (Academic) and Provost
Tony Secco, Dean, Faculty of Graduate Studies
John Stapleton, Rector, St Paul's College
Beverly Sawicki, University Secretary

❖Council On Post-Secondary Education

STATEMENT OF INTENT

Institution

☐	Brandon University	☐	Assiniboine Community College
✗	University of Manitoba	☐	Keewatin Community College
☐	University of Winnipeg	☐	Red River Community College
☐	Collège universitaire de Saint-Boniface		

Program Overview

- Program Name: Ph.D. in Peace and Conflict Studies
- Credential to be offered: Doctor of Philosophy in Peace and Conflict Studies
- Does the program require accreditation from a licencing group? ☐ YES ✗ NO
  If yes, name group
- Length of the program 3-4☐ Years ☐ Months ☐ Semesters
- Proposed program start date: 01/SEP/2005
  Day/Month/Year
- Which department(s) within the institution will have responsibility for the program?

  The Peace and Conflict Studies Graduate Program Committee of the Faculty of Graduate Studies consisting of 1 committee Chair, and 4 representatives from four faculties/schools, 2 members-at-large, and 2 graduate students.

- As compared to other programs your institution will be proposing, is the priority of this program:
  ✗ High
  ☐ Medium
  ☐ Low
- Is this a new program? X☐ YES ☐ NO
- Is this a revision of an existing program: ☐ YES X☐ NO
  If YES, name program
  What are the impacts of changing this program?
- Will the program be available to part-time students? X☐ YES ☐ NO
- Will this program have a cooperative education component? X☐ YES ☐ NO
  If YES, how long with the field placement be?
  A one semester three credit hour practicum class.
- Will the program contain an option to assess the prior learning of students, to grant credit for the skills/knowledge already present? ☐ YES X☐ NO
  Provide Details
- Will there be distance delivery options? ☐ YES X☐ NO
  Provide Details

  Not at this time, but possibly in the future.

- Will this program be delivered jointly with another institution? ☐ YES X☐ NO
  If YES, name the institution
- Are similar programs offered in Manitoba or other jurisdictions? ☐ YES X☐ NO
  If YES, indicate why this program is needed (e.g., area of specialization)

At the present time, there is no doctoral degree-granting program in Peace and Conflict Studies in Canada. A number of Canadian Universities offer interdisciplinary Masters programs in the field of Peace and Conflict Studies. A search of Canadian university websites revealed three masters program that bear some similarity to the proposed doctoral program in Peace and Conflict Studies. They are:

- the Masters of Arts in Conflict Analysis and Management, and Human Security and

Peacebuilding at Royal Roads University
- the Masters of Arts in Conflict Resolution at the University of Victoria.
- the proposed joint Master's Degree program in Conflict Studies at St. Paul University and the University of Ottawa.

● What articulation, block transfer or credit transfer arrangements will you be looking at developing for this program?

None.

Specific Program Information

1. **Program Description**

● Describe the program and its objectives:

The proposed doctoral program in Peace and Conflict Studies is a multi-faculty research-based PhD in Peace and Conflict Studies at the University of Manitoba. The four participating Faculties/School partners are: Arts, Education, Law, and Social Work. A major objective of the program is to offer a unique interdisciplinary research-based doctoral program allowing the combination of knowledge bases in the Social Sciences that complement one another. A second objective of the program is to produce PhDs with an understanding of the importance and pertinence of interdisciplinary and collaborative approaches to Peace and Conflict Studies.

The course work requirement will consist of 12 credits of 700 level core courses. Students will also be required to take six credits in a cognate area and 6 credits in research methodology from any of the four partners or from other Faculties outside the four participating Faculties/Schools that offer graduate courses related to Peace and Conflict Studies. Students in the program will also take part in yearly research-related activities involving student presentations. Students will also be required to present research findings at a minimum of one national or international conference as first or second author. The research program will culminate in passing a written candidacy exam and in preparing and defending a doctoral thesis.

The University of Manitoba's strategic plan, "Building for a Bright Future" (2003), places emphasis on research and graduate education that makes a difference to the Province, the Nation, and the World. The doctoral program will encompass the analysis and resolution of conflicts; peace research that examines the root causes of violence, social conflicts, and social inequalities; and a commitment to community-building and social justice. This is necessarily an interdisciplinary scholarly endeavor to create scholars in the field. The program will be dedicated to research and theory building as well as to practical applications of research for addressing conflicts and for peace-building at the international, national, community, and organizational levels. The proposed doctoral program will be a wholly contained program within the University of Manitoba. The doctoral program will be housed within the Arthur V. Mauro Centre for Peace and Justice at St. Paul's College, University of Manitoba and will be administered by the Peace and Conflict Studies Graduate Program Committee of the Faculty of Graduate Studies. The objective of the program is to prepare educators, researchers, professionals, and public intellectuals to face some of the most challenging problems and tasks of our time. World societies are increasingly aware that they must work together to face shared problems relating to, for example, economic development, environmental issues, health issues, and catastrophes such as famine. Graduates will have demonstrated the ability to analyze conflict, work collaboratively to resolve conflicts, and forge pathways to peace. These analytic and practical skills are important in numerous professional contexts and are increasingly in demand as international governmental and nongovernmental organizations play an increasing role in the world affairs.

● Provide an overview of the content to be taught in this program:

Peace and Conflict Studies is an intellectual interdisciplinary endeavor that is gaining momentum and broader visibility. The importance of an interdisciplinary approach to the analysis and resolution of conflicts has been acknowledged by scholars, practitioners, and government policy makers. The proposed doctoral program in Peace and Conflict Studies will provide graduate education within a significant, emerging interdisciplinary field that examines the causes and peaceful transformation of violence and social conflicts. The Program will emphasize the

following substantive areas, among others: the role of international organizations and standards in the quest for peace and justice; cultural, religious, and philosophical dimensions of peace; dialogue and reconciliation among religions; peace education; environmental conflicts; and the role of creativity in conflict and peace. Program course offerings include the following 3 credit courses:

• 12 credits (graduate level) of coursework in core curricular areas covering

- theories of conflict analysis and conflict resolution (the course examines macro and micro theories from social science disciplines about the nature of conflict and various approaches to peacemaking and conflict resolution)

- cross-cultural conflict (the course examines theories regarding culture and identity and models for addressing cross cultural conflict).

- violence analysis and peace-building (the course examines forms, types and theories of violence from the interpersonal to the global level and a range of violence intervention approaches).

- practicum (the course allows students to apply theory to practice in a field research project analyzing situations using knowledge form previous course work).

• 6 credits (graduate level) of coursework in a cognate area, in which students are free to choose graduate courses from the four participating Faculties/Schools, as well as from other Faculties offering graduate courses related to the field with the approval of the program director (e.g., 019.718 Armed forces and International Security, 053.728 Geographical Approaches to Land Resources Conflict Resolution, 018.769 Structural Theories of Development).

• 6 credits (graduate level) of coursework in research methodology relevant to the students' dissertation research and which can be taken from the four participating Faculties/Schools, as well as from other Faculties offering graduate methodology courses with the approval of the program director (e.g., 077.2447 Research Methods 1, 077.448 Research Methods 2, 077.742, Qualitative Research Methods 076.714).

2. Enrollment

● What is the program's initial projected enrollment?

Six students for the first year.

● What is the projected enrollment for the 2nd and 3rd years?

Six students in year 2, 6 to 8 students in year 3.

● Describe the expected student profile?

This program is expected to attract students interested in this field and in pursuing an interdisciplinary doctoral degree in Peace and Conflict Studies. Typically, students will be interested in working in universities and colleges, in communities, in organizations, for national governments, and internationally to address conflicts and problems and to develop pathways to peace and to civil society. Students interested in this program will be required to have a master's degree in diverse disciplines. This program, which would be the first in Canada and one of very few in the world, is expected to attract applicants from across Canada and throughout the world. The unique focus of the program is expected to attract not only those who have pursued their education since high school, but also persons with a master's degree who have some significant life experience in the Peace and Conflict Studies field and are returning to graduate studies.

3. Labour Market Information

● What labour market need is the program expected to meet?

The combination of research and course work experiences made possible through this interdisciplinary doctoral program will provide unique opportunities for graduates wishing to work in both the professional, teaching and research domains. For example, faculty will be needed to teach, administer and do research in the 27 universities and colleges in North America, 1 in Asia, 3 in Australia, 17 in Europe, and 3 in the Middle East that offer a Masters degree in the field as well as in the 8 universities/colleges in Europe and 80 in North America offering a major/minor or diploma in Peace and Conflict Studies. There is a need for the proposed interdisciplinary degree because of the myriads of conflicts occurring in the world today. Moreover, positions in international governmental and nongovernmental organizations related to this field are increasing dramatically, creating a new class of international workers and

administrators. For Canada, being represented in these organizations will be critical to the nation's presence and influence in the global arena. Increasingly, military personnel are working in new capacities in international settings, for which new knowledge and skills are needed. The program will be attractive to persons in Canada, the U.S., "post-conflict zones," developing countries, and throughout the world who seek work or are already working at the transnational level.

- Are there currently jobs in Manitoba in this field? X● YES ● NO

Teaching and research positions are currently available in Manitoba and across Canada in Faculties and Departments that would be interested in graduates from the proposed program (examples are Menno Simons College, Conrad Grebel University College, University of Waterloo). Further, graduates of this doctoral program will be able to work as public policy planners, teachers, researchers, trainers, consultants, journalists, legislators, clergy, community organizers, and policymakers. They will be valuable resources in business, health care, law enforcement, social and community services, communications, and governmental settings.

It is anticipated that Manitoba graduates from this program will make an important contribution to a wide variety of organizations, institutions, and governmental departments throughout Canada and outside Canada.

If yes, where (geographic location and industry)?

- What is the future job forecast for individuals with this education/training/credential?

Future job forecast appears promising given the increasing emphasis put on interdisciplinary research in the social sciences, and the impending wave of retirements form Canadian and U.S. universities. Also, the Doctoral Program in Peace and Conflict Studies will prepare its graduates for several kinds of career paths—for example: positions in governmental organizations, international governmental organizations (e.g., the United Nations High Commission for Refugees), and international nongovernmental organizations (e.g., Amnesty International, International Alert, Friends of the Earth, Red Cross, Red Crescent); researchers and policymakers on issues of international peacekeeping, intergroup conflict resolution, human rights, economic and social development, and other social problems; working with elementary schools, secondary schools, and/or institutions of higher education to design and/or implement programs/curricula addressing peace education, violence prevention, and/or peer mediation; trainer, consultant, or other kind of third-party intervener for individuals, organizations (including, for example, not-for-profit organizations, nongovernmental organizations international nongovernmental organizations, as well as businesses, hospitals, police departments, prison, etc.), communities, or national governments. There are also public intellectuals of various kinds for whom this course of study would be especially appropriate: for example, journalists, legislators, clergy, community organizers, directors of public institutions, and others whose work will shape and influence social thought and action.

- How does this program fit with Manitoba's stated economic, social and other priorities?

This program fits within Manitoba's economic, social, and other priorities as articulated in the recent Speech from the Throne, opening the first session of the Thirty-Eighth Legislative Assembly of the Province of Manitoba. The doctoral program is dedicated to making communities safer and more secure. The goals of this program are congruent with Manitoba's desire to build understanding, to create an inclusive community, and to develop a vibrant civic culture. This is significant for creating an attractive context for business and social development. As one member of the Mauro Centre's Board of Directors put it, Winnipeg can be "a beacon of peace to the world."

- What agencies, groups, institutions will be consulted regarding development of the program?

A number of faculty and administrators at the University of Manitoba and other academic institutions in Canada were consulted about the development of the doctoral program in Peace and Conflict Studies.

In addition, a large number of faculty who teach and do research in Peace and Conflict Studies in academic institutions in the USA and overseas were consulted regarding the development of the proposed doctoral degree. For example, Neil Katz (Program in Nonviolent Conflict and Change, Syracuse University); Alice Ackermann (Marshall Center, Germany); Tom Boudreau (School of International Service, American

University); Marc Howard Ross (Department of Political Science and Peace Studies, Bryn Mawr College); Tamar Hermann (Tami Steinmetz Centre for Peace Research, Tel Aviv University), Joe Nevo (University of Haifa), Dominic Murray (University of Limerick), Mitja Zagar (Center for Ethnic Studies, University of Ljublana), and Dan Bar-On (Ben Gurion University) among many others.

- Is there any other information relevant to this program ?

4. Financial Information

Funds will be requested for two support staff members to support the administrative aspect of the new program. In addition, it is expected that the library will need $15,000 to purchase books in the field to support the program.

- Projected Program Costs:

Operating
Capital
Total cost

- Projected Program Revenue:

Other
Total revenue

Submitted by:

Anthony Secco, Ph.D.

Name (print)

Dean of Graduate Studies, University of Manitoba

Position

Signature Anthony Secco Date October 30, 2003

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Winnipeg, Manitoba
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UNIVERSITY OF MANITOBA | Office of the President

17 November 2003

Ms Louise Gordon
Acting Executive Director
Council on Post-Secondary Education
410 - 330 Portage Avenue
Winnipeg, Manitoba
R3C 0C4

Dear Ms Gordon,

Statement of Intent:
Ph.D. in Applied Health Sciences

On behalf of The University of Manitoba, I am pleased to submit the attached Statement of Intent to establish a new interdisciplinary Ph.D. program in Applied Health Sciences.

This innovative program will offer advanced students access to a unique interdisciplinary, research-based doctoral program drawing on academic resources currently housed in three Faculties and one School on both campuses of the University. Students would be required to complete a common seminar course that explores issues of applied health sciences. In addition, students would complete other graduate-level courses in areas of their particular interest. And, of course, students will complete a dissertation that satisfies scholarly criteria established by the Faculty of Graduate Studies.

This new program is expected to attract half a dozen students each year. Students will have completed Masters degrees in one of a variety of disciplines, and this will facilitate the interdisciplinary nature of the program. Employment opportunities for graduates are likely to be found in universities, governments, and international agencies.

Much of the resource needs of this new program are now in place. Nonetheless, it is possible that modest additional resources will be requested from COPSE in the full program proposal.

I will be pleased to provide any other information that your Council may require during its consideration of this Statement of Intent.

Sincerely,

Richard A. Lobdell
Vice-Provost (Programs)

Encl.
cc Emőke J. E. Szathmáry, President and Vice-Chancellor
Robert Kerr, Vice-President (Academic) and Provost
Tony Secco, Dean, Faculty of Graduate Studies
Beverly Sawicki, University Secretary

STATEMENT OF INTENT

Institution

Brandon University
X University of Manitoba
University of Winnipeg
Collège Universitaire de Saint-Boniface

Assiniboine Community College
Keewatin Community College
Red River Community College

Program Overview

Program Name: **Ph.D in Applied Health Sciences**

Credential to be offered: **Doctor of Philosophy (PhD) in Applied Health Sciences**

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

Length of the program: **3-4 Years** Months Semesters

Proposed program start date: **_01_/_09_/ 2005_**
Day/Month/Year

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

Applied Health Sciences PhD program committee consisting of 1 committee Chair, one representative from each of 4 partners (grad program chairs), 1 administrative assistant, 2 members-at-large, and 2 graduate students.

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

X High
Medium
Low

Not applicable

Is this a new program? **X YES** NO

Is this a revision of an existing program: YES **X NO**
If YES, name program
What are the impacts of changing this program?

Will the program be available to part-time students? **X YES** NO

Will this program have a cooperative education component? YES **X NO**
If YES, how long with the field placement be?

Will the program contain an option to assess the prior learning of students, to grant credit for the skills/knowledge already present? YES **X NO**
Provide Details

Will there be distance delivery options? YES **X NO**
Provide Details

Will this program be delivered jointly with another institution? YES **X NO**
If YES, name the institution

Are similar programs offered in Manitoba or other jurisdictions? YES **X NO**
If YES, indicate why this program is needed (e.g., area of specialization)

Several Canadian Universities offer "interdisciplinary studies graduate programs" which enable students to earn degrees "focusing on problems which cannot successfully be addressed within the bounds of a single established discipline" (from UBC Website). Several of the larger Canadian Universities also offer "collaborative" or "multi-disciplinary" graduate programs, but not in the field of applied health sciences as outlined in this proposal. A search of Canadian university websites revealed four PhD programs that bear some similarity to the proposed PhD in Applied Health Sciences. They are:

- the Aging and the Life-course collaborative graduate program at University of Toronto (emphasis on aging and health)
- the Institute for Health Promotion Research at UBC (individualized PhD)
- the PhD in Population Health at University of Ottawa (combining faculties of Medicine, Health Sciences, Sciences, Social Studies, Law, Administration, and Engineering); and
- the multi-disciplinary PhD programs in Health Research Methodology, in Nursing, and in Medical Sciences at McMaster University.

What articulation, block transfer or credit transfer arrangements will you be looking at developing for this program?

None

Specific Program Information

1. **Program Description**

Describe the program and its objectives:

The proposed program is a multi-faculty, research-based ***PhD in Applied Health Sciences*** at University of Manitoba. The 4 participating Faculties/Schools are: Physical Education and Recreation Studies, Nursing, Human Ecology, and Medical Rehabilitation. **A major objective** of the program is to offer a unique *multi-dimensional research-based doctoral program* allowing the combination of knowledge bases in the Applied Health Sciences which complement one another. **A second objective** of the program is to produce PhDs with an understanding of the importance and pertinence of multi-dimensional and collaborative approaches to applied health sciences research.

The course-work requirement will consist of a minimum of 15 credits of 700-level course-work consisting of at least 3 credits from each of any 2 of the 4 partners (6 credits). Students will also be required to take the course, "Research and practice in applied health sciences" (3 credits), a lecture/seminar course in which faculty members from the 4 academic partners will participate. Students in the program will also take part in a monthly seminar in Applied Health Sciences with mandatory attendance for the duration of their program (3 credits), as well as yearly research-related activities (poster day, oral presentation day) involving student presentations. The remaining 3 credit hours can be chosen from a combination of graduate courses from the 4 partners or from other faculties outside the 4 participating Faculties/Schools that offer graduate courses related to applied health sciences. The monthly seminars will consist of an admixture of

presenters from the University of Manitoba and from outside, with the focus on applied health science issues. Poster and oral presentations will involve directed research projects, research proposals, and applied health sciences issues. Students will also be required to present research findings at a minimum of one national/international conference, as an oral or poster presentation, as first author, during their program. The research program, culminating in the preparation and defense of a doctoral thesis, will be conducted with the approved faculty member(s) of the student's choice.

The program will be administered by a multi-faculty Applied Health Sciences PhD committee. ***The Applied Health Sciences PhD (AHSPC) Committee*** will consist of the Chair of the program, the Chairs of the graduate programs of each of the 4 partners, 2 members-at-large elected from among approved faculty members of the 4 partners, and 2 grad students. The Executive of this committee, consisting of the Chair, 2 members at large and 1 grad student, will deal with and oversee issues such as: admissions, candidacy exams and thesis proposal committees, thesis defense committees, program and thesis plans, yearly evaluation of students, direct passage from MSc to PhD, designation of potential PhD advisors, participation program of PhD students (poster day, seminars), thesis format as traditional vs. published manuscripts, and the like. This committee will meet at the call of the Chair. The Executive will report to the AHSPC, which will provide the forum for discussion of best practices, information sharing, problems, and feedback concerning the on-going functioning of the program. An administrative assistant will provide support for both the full and the Executive Committee.

Provide an overview of the content to be taught in this program:

The program is based on the recent World Health Organization (WHO) International Classification of Functioning, Disability and Health (ICF). This classification provides a framework for research into health and health-related states. The orientation of each of the 4 academic partners is such that each unit will view health and health-related states from a different perspective. The common course "Research and practice in applied health sciences" will allow students to understand and explore issues in applied health sciences from these different perspectives. Likewise, the seminar course will allow exploration of a wide variety of topical health and health-related issues. The poster/oral presentation day will serve to bring the PhD students in the program together regularly in a common forum. Besides the required courses, the program will provide a significant degree of individual flexibility concerning the course content, as students will be free to chose a combination of graduate courses from the 4 participating Faculties/Schools, as well as from other faculties offering graduate courses related to applied health sciences, while remaining within the guidelines outlined above (a minimum of 15 credits of 700-level course-work, consisting of at least 3 credits from each of any 2 of the 4 partners).

2. **Enrollment**

What is the program's initial projected enrollment? **6 students**

What is the projected enrollment for the 2nd and 3rd years?
6 students in year 2, 6 to 8 students in year 3, projected maximum of 20 students in the program at any time.

Describe the expected student profile?

Applicants will most likely be students possessing a master's degree in one of the 4 participating disciplines/professions, who are seeking a multi-dimensional doctoral experience in Applied Health Sciences. They may come with a wide range of professional and research experiences, which will serve to enrich the group. The unique focus of this program will attract applicants from outside Manitoba, and most likely from outside Canada.

3. **Labour Market Information**

What labour market need is the program expected to meet?

The labour market for graduates of the proposed program will be vibrant, and subject to continued growth in the future, given the following considerations:

- the Romanow Report advocated an investment in prevention and health promotion as a means to improve the health of Canadians; this will require interdisciplinary research to ensure effective translation into action.
- there will be a wave of retirements from Canadian university programs over the next 10 years; this is expected to have a significant negative impact on applied health science-related programs and the research associated with them.
- there is a pressing need to increase capacity in applied health science research; this can only be done by providing increased opportunities for relevant doctoral level education.
- as the Canadian population ages there will be increasing emphasis on maintaining health and quality of life into old age.
- continued research into the importance of life-style choices (nutrition, exercise, stress) as they impact on healthy living will require the exposure of new generations of researchers to a wide range of research tools, approaches, interactions, and attitudes, of the nature that will be offered by this program.

The importance of a multi-dimensional approach to the solving of health issues of Canadians has been acknowledged by government policy makers, health care providers, and health science researchers. Individuals with research experience in a multi-faculty Applied Health Sciences environment are rare, since this type of program does not exist elsewhere in Canada. We expect that the various possible combinations of research and course-work experiences made available through this program will provide unique opportunities for individuals wishing to work in both the professional and research domains.

Are there currently jobs in Manitoba in this field? **X YES** NO

If yes, where (geographic location and industry)?

Since this is a novel program, it is not possible at this time to provide a definitive answer to this question. However, tenure track positions are currently available in Manitoba and across Canada in Faculties and Departments which would be interested in graduates from the proposed program (examples are Medical Rehabilitation, Kinesiology and Nursing). In the Nursing field, job opportunities include: (1) institution-/agency- based researchers; (2) management and administrative positions; (3) Faculty of Nursing, Red River College faculty positions. In the Kinesiology field, increasing interest is being generated toward the hiring of faculty with a multi-dimensional attitude towards health issues, as opposed to the traditional hiring of individuals in specific, more focused areas of expertise (such as biomechanics, exercise physiology, exercise biochemistry, and the like).

What is the future job forecast for individuals with this education/training/credential?

Given the increasing emphasis being put on interdisciplinary research in the health sciences, the range of research and professional expertise in the participating faculties/departments, and the impending wave of retirements from Canadian Universities, future job forecast appears promising.

Agencies, groups and institutions to be consulted (see below) will be asked for comments on this issue.

How does this program fit with Manitoba's stated economic, social and other priorities?

There are 9 provincial priorities for Manitoba, as presented in the Budget Speech of April 22, 2002. Of these priorities, the proposed program is highly consistent with several:

- "Investing in Manitoba's future by providing high quality, affordable education within the reach of all Manitobans" – the proposed program is unique in Canada, and will be accessible not only to Manitobans, but will most likely attract students from outside Manitoba as well.

- "Health Care" - this program will produce research scientists with a unique perspective which will have positive impact on the health of Manitobans and Canadians through their eventual involvement as researchers, consultants, and practitioners in the health care system.

- "Building safe, secure communities", and specifically, "workplace safety and health". The program will provide a unique multidimensional research and study program for those interested in research in the areas of worker ergonomics and health, fitness, injury-prevention, and healthy, productive working environments.

- The proposed program also has the potential to impact on several other provincial priorities, such as "Rural communities", "Functional foods and nutraceuticals", "Focus on the child", "Northern and aboriginal communities". The impact in these areas will be a function of the research interests that students bring to this program, and the possibility for multidisciplinary PhD studies in these areas that is currently limited.

What agencies, groups, institutions will be consulted regarding development of the program?

Web-based descriptions of PhD programs with similar administrative structure (multi-faculty, common core course-work plus optional courses from several academic units, research-based).

University of Winnipeg
Brandon University
Manitoba Health
Winnipeg Regional Health Authority (WRHA)
Regional Health Authorities of Manitoba (RHAM)
Canadian Council of University Physical Education & Kinesiology Administrators (CCUPEKA)
Canadian Association of Occupational Therapists
Canadian Physiotherapy Association
Association of Occupational Therapists of Manitoba
Manitoba Society of Occupational Therapists
College of Physiotherapists of Manitoba
Canadian Physiotherapy Association (Manitoba Branch)
College of Registered Nurses of Manitoba (CRNM)
Vanier Institute on the Family
Canadian Institute on Child Health
Canadian Public Health Association
Family Service Canada
Canadian Association for Young Children
Canadian Association on Gerontology
Canadian Psychological Association
Canadian Sociology and Anthropology Association
Canadian Association of Paediatric Health Centres

Is there any other information relevant to this program?

4. **Financial Information**

The current resources of the four partners appear to be sufficient to run this program. However this does not preclude a request for administrative funds in the final application.

Submitted by:

Name/Position	Signature/Date
Phillip Gardiner, Ph.D. Director, HLHP Research Institute	
Juliette Cooper, Ph.D. Director, School of Medical Rehabilitation	
David Gregory, Ph.D. Dean, Faculty of Nursing	
Dennis Hrycaiko, Ph.D. Dean, Faculty of Physical Education & Recreation Studies	
Gustaaf Sevenhuysen, Ph.D. Dean, Faculty of Human Ecology	

Is there any other information relevant to this program?

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Name/Position	Signature/Date
Phillip Gardiner, Ph.D. Director, HLHP Research Institute	_____
Juliette Cooper, Ph.D. Director, School of Medical Rehabilitation	Nov 3/03
David Gregory, Ph.D. Dean, Faculty of Nursing	_____
Dennis Hrycaiko, Ph.D. Dean, Faculty of Physical Education & Recreation Studies	_____
Gustaaf Sevenhuysen, Ph.D. Dean, Faculty of Human Ecology	_____

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Juliette Cooper, Ph.D. Director, School of Medical Rehabilitation	_____
David Gregory, Ph.D. Dean, Faculty of Nursing	David Gregory
Dennis Hrycaiko, Ph.D. Dean, Faculty of Physical Education & Recreation Studies	_____
Gustaaf Sevenhuysen, Ph.D. Dean, Faculty of Human Ecology	_____

Is there any other information relevant to this program?

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Name/Position	Signature/Date
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Juliette Cooper, Ph.D. Director, School of Medical Rehabilitation	_____
David Gregory, Ph.D. Dean, Faculty of Nursing	_____
Dennis Hrycaiko, Ph.D. Dean, Faculty of Physical Education & Recreation Studies	Dennis Hrycaiko
Gustaaf Sevenhuysen, Ph.D. Dean, Faculty of Human Ecology	_____

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Gustaaf Sevenhuysen, Ph.D. Dean, Faculty of Human Ecology	_____

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UNIVERSITY OF MANITOBA | Office of the University Secretary

DATE: December 11, 2003

TO: Members of Senate

FROM: Jeff M. Leclerc, Acting University Secretary

SUBJECT: Business Arising from the December 3, 2003 Senate Meeting - Post-Baccalaureate Diploma in Performance

At the December 3, 2003 Senate meeting, Senate approved the following motion:

THAT Senate approve and recommend that the Board of Governors approve the Proposal of the School of Music to introduce a Post-Baccalaureate Diploma in Performance [as endorsed by the Report of the Senate Committee on Curriculum and Course Changes dated August 19, 2003 and the Report of the Senate Planning and Priorities Committee dated October 27, 2003], subject to receiving confirmation from the School of Music Council of its approval of the program.

On December 4, 2003, I received the following message from Dr. Dale Lonis, Director of the School of Music:

"Today, December 4, 2003, the following motion was passed at School of Music Council:

The School of Music Council confirms that the Post-Baccalaureate Diploma Program had been previously approved.

The vote was 18 - 0 with 4 abstentions."

Accordingly, the proposal to establish a Post-Baccalaureate Diploma in Performance will be forwarded to the Board of Governors for their consideration.

/jml

December 10, 2003

Report of the Senate Executive Committee

Preamble

1. The terms of reference for the Senate Executive Committee are found in Section 7.2 of the *Senate Handbook* (revised 2000).

2. The Senate Executive Committee held its regular meeting on December 10, 2003.

Observations

1. **Speaker for the Senate Executive Committee**

   Dr. Dale Lonis will be the Speaker for the Executive Committee for the January meeting of Senate.

2. **Comments of the Senate Executive Committee**

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

Respectfully submitted,

Dr. Emőke Szathmáry, Chair
Senate Executive Committee

Terms of Reference: *Senate Handbook* (revised 2000), Section 7.

/jml

December 2, 2003

Report of the Senate Planning and Priorities Committee on a proposed site location for a new building for Pharmacy (with facilities for Faculties of Medicine and Dentistry)

Preamble

1. The Terms of Reference for the Senate Planning and Priorities Committee (SPPC) are found in section 8.32 of the *Senate Handbook*, wherein SPPC is charged to make recommendations to Senate regarding physical plant development.

2. The Space Planning sub-committee of SPPC met and reported to SPPC on proposed site locations for the new building on the Bannatyne Campus for the relocation of the Faculty of Pharmacy.

Observations

1. This proposal calls for the construction of approximately 6,750 square metres (approximately 75,000 square feet) of floor space on the Bannatyne campus. The space is required primarily for the relocation of the Faculty of Pharmacy from the Fort Garry campus and for the provision of teaching facilities to be shared by the Faculties of Pharmacy, Dentistry and Medicine.

2. Corbett Cibinel Architects have been requested by the University to consider three alternative sites for this building:
   - the site of the Old Basic building on the north side of McDermot Avenue, directly west of the Chown Building
   - car park Lot E and the site of the "temporary" Immunology building, at the corner of McDermot Avenue and Tecumesh Street
   - car park Lot A together with the seating area and two houses (already owned by the University) to its west, on the south side of McDermot Avenue.

3. The architects' recommendation is for development of the third site. The three sites can be seen in the attached figures. The recommended site is shown with a diagrammatic building block on the aerial photograph.

4. The proposals reflect the intention for the Faculty of Pharmacy to be relocated to the Bannatyne campus and to be able to collaborate and occupy space in common with the Faculties of Medicine and Dentistry. The anticipated date of completion and occupancy of the building is August, 2006.

5. Three possible locations for the building were considered (see above). The principal reasons for recommending for or against each are:
   - the Old Basic building site would be beneficial in terms of location but the restricted site area would require the new building to be higher and would be difficult to tie into the adjacent buildings. Also, there would be additional costs and delays in construction associated with asbestos removal and demolition of the old building and provision of replacement space for the present occupants of the building.

- the Lot E site is a large treeless site that could, eventually, accommodate a larger "gateway" building at the west end of the Bannatyne campus. It is relatively remote from the existing Medicine and Dentistry buildings and therefore would, in particular, be problematic for the transport of research animals to and from this site.
- the Lot A (et al) site is closer to the buildings that will share the new facilities and can be accessed by a proposed tunnel under McDermot. The houses and (north facing) sitting area that would be demolished have no outstanding merits. The American Elm trees in the verge on the south side of McDermot should be retained and protected during construction; the Green Ash trees on the north side of Lot A should be transplanted before construction commences.

6. The proposals represent densification of the Bannatyne campus. Removal of parking space on Lot A will, however, be compensated for by the provision of a parking structure on the northern part of Lot E. No abnormal adverse effects are anticipated in terms of air quality or other environmental impacts. The external finish of the structure will be considered in the next stage of design.

7. The budget for the proposed Pharmacy Building is $17 million. It is to be funded from the *Building on Strengths* Capital Campaign. There is some consideration given to adding a fourth floor to be "shelled", but vacant, to provide for future research requirements on the Bannatyne Campus. The cost implications of this are not known, at present.

8. The proposals do indicate that there is an urgent need for a master plan for the Bannatyne campus, along the lines of the plan for the Fort Garry campus, *A Networked Community*, which was presented to and approved by Senate on March 6, 2002. This should cover, *inter alia*, potential development sites and the density and character of new buildings on them; transit and car parking arrangements; pedestrian routes; provisions for street planting and open spaces in optimal (south-facing) locations.

Recommendations:

SPPC recommends that the option containing lot A on the south side of McDermot Ave. be adopted as the site of the new building for the Faculty of Pharmacy.

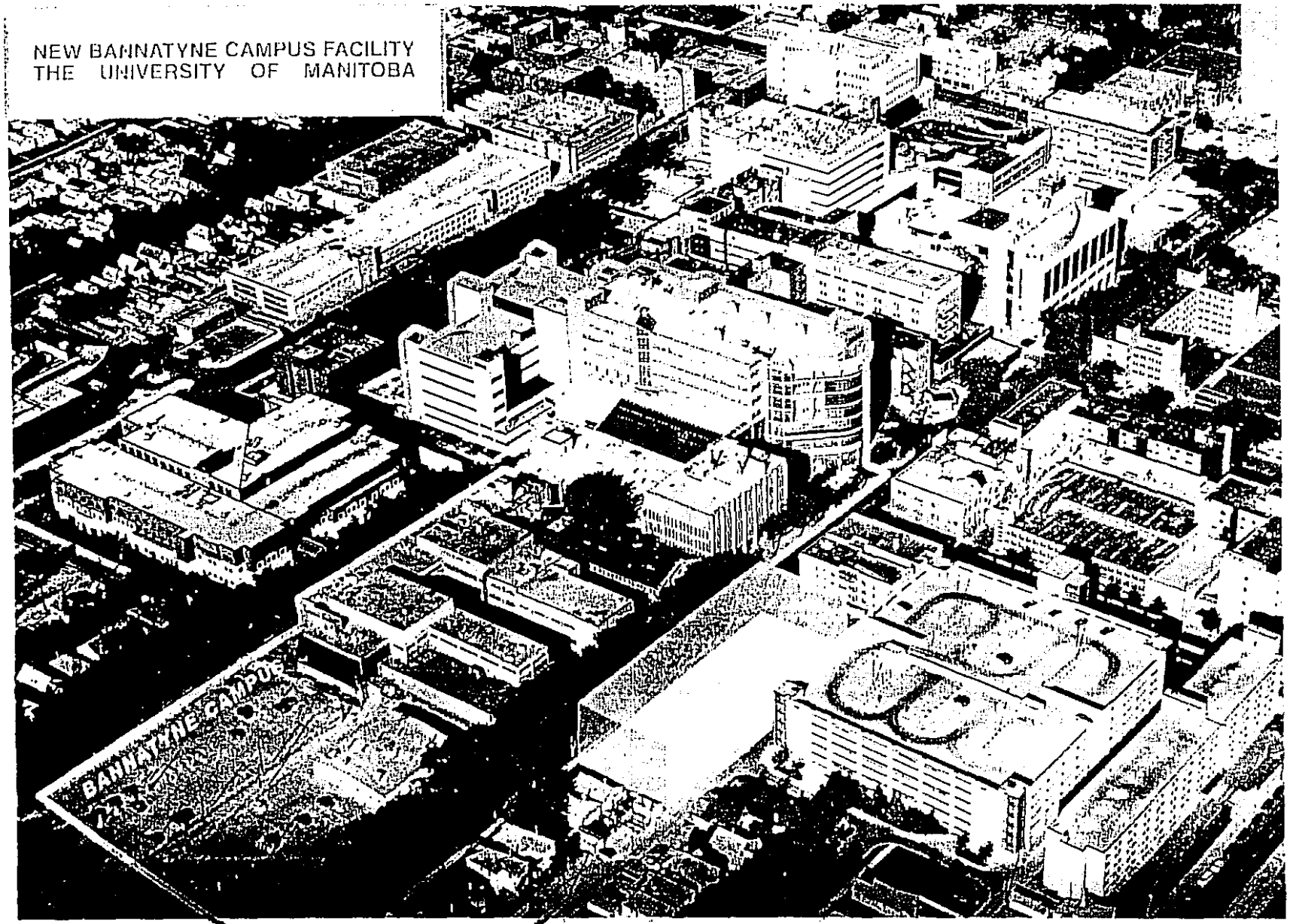
Respectfully submitted,

Juris Svenne, Chair, Senate Planning and Priorities Committee
Alan Tate, Chair, Space Planning Sub-committee

/jps

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

NEW BANNATYNE CAMPUS FACILITY
THE UNIVERSITY OF MANITOBA



corbett cibinel architects

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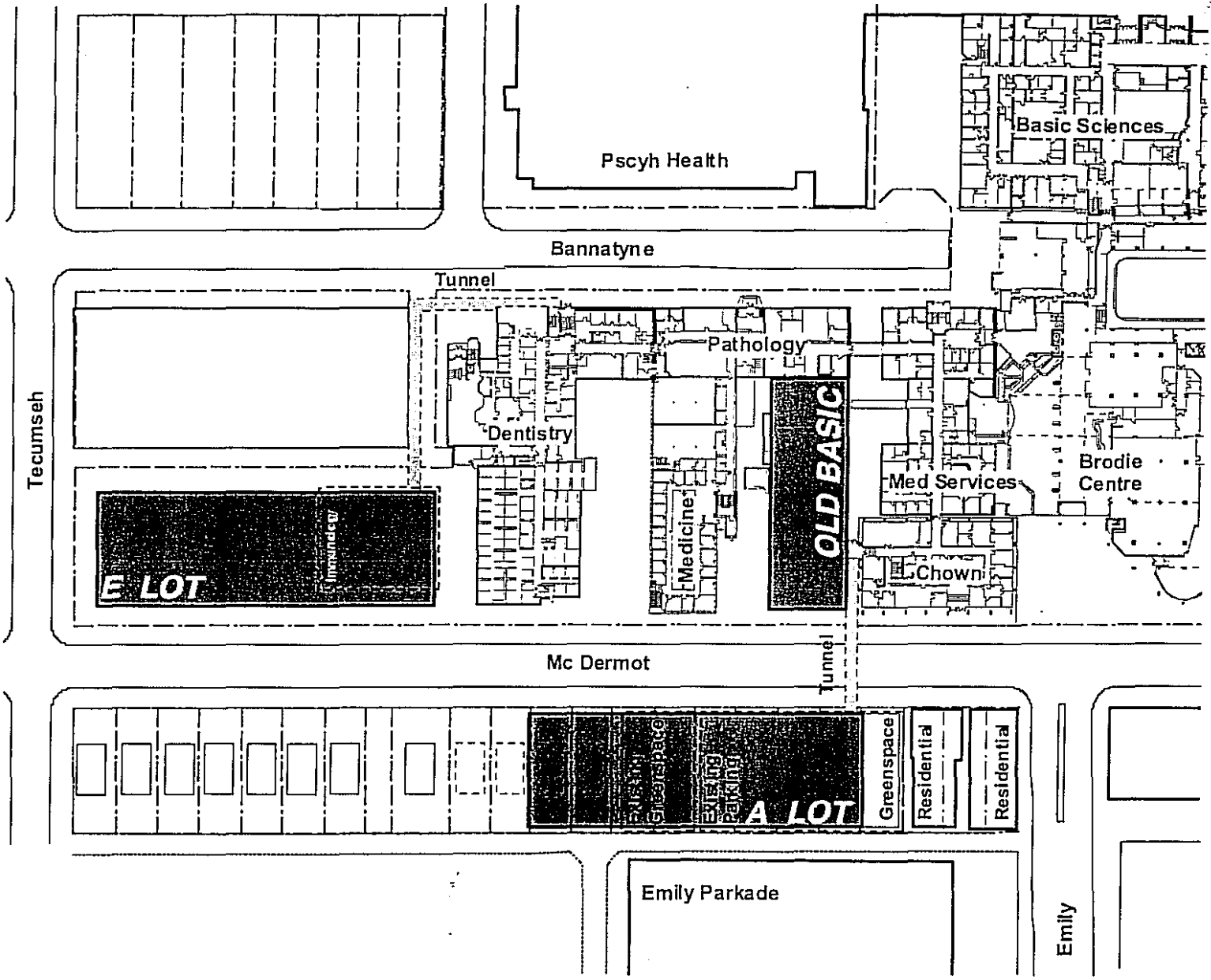

E LOT : 2250 sqm
LAB SPACE: 1 FLOOR - OVERALL 3 STORIES

A LOT : 2250
LAB SPACE: 1 FLOOR - OVERALL 3 STORIES

OLD BASIC : 1025
LAB SPACE: 2 FLOORS - OVERALL 6 STORIES

FOOT PRINT SCHEMATIC

SCALE 1:1400

corbett cibinel architects

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course/program proposals/modifications/deletions.

Preamble

The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing new graduate programs and makes recommendations to FGS Council. PPC met on February 24, 2003 and made the following recommendation regarding the proposal of a Doctoral (Ph.D.) program in Cancer Control between the Faculty of Nursing and the Department of Community Health Sciences.

Observations

1. The Ph.D. in Cancer Control is an educational initiative of a Canadian Health Services Research Foundation (CHSRF) and Canadian Institutes of Health Research (CIHR) Chair Award to the University of Manitoba, Faculty of Nursing.

2. The program will provide specialty training for doctoral students in which they will apply new knowledge and skills needed to meet practice requirements evolving from changes in health care.

3. The external review committee endorsed the proposed program, concluding that the program proposal is reasonable and credible and would be a worthy investment for the University of Manitoba. The external review committee report and the unit response to the reports are included with the proposal.

4. The Library Support Statement indicated that the Libraries would require additional ongoing funds to upgrade its journal collection (2003 annual subscription cost: $3753). The Library also concluded that the monograph collection is not adequate to support the program and would require $3225 to upgrade the collection. The Faculty of Nursing has indicated that these funds would be available through the Chair Award.

5. The proposal received support statements from The Faculty of Nursing, Student Records, IST, units delivering courses outside of the program and, Manitoba groups, agencies and organizations associated with the program.

Recommendation

The Programs and Planning Committee of the Faculty of Graduate Studies recommends that the Faculty Council of Graduate Studies approve the Ph.D. Program in Cancer Control proposal.

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

Approved by the Faculty Council of Graduate Studies May 21, 2003

Copies of support statements and CV's are available in the Faculty of Graduate Studies Office for review

EXECUTIVE SUMMARY

This document describes the proposed Ph.D. Program in Cancer Control to be offered by the Faculty of Nursing and the Department of Community Health Sciences at the University of Manitoba. The goal of cancer control is to prevent cancer, cure cancer, and increase survival and quality of life for those who develop cancer, by converting the knowledge gained through research and evaluation into clinical and community interventions. This program will address the pressing need in Canada for clinical and community health scientists in cancer control.

The program goal will be to produce a strong cadre of independent investigators who are responsive to the concerns and experiences of practicing colleagues in the area of cancer control across Canada. Significant collegial interaction will be facilitated among the Ph.D. students, professors, leading investigators, support staff, practicing clinicians, program managers, and policy makers.

In addition to a thesis, the PhD program will include core courses on management and organizational behaviour change theory, philosophy of nursing science, cancer nursing research, advanced biostatistics/clinical trials/or qualitative research methods, principles of epidemiology of cancer, and a selected readings course related to the student's focus of study for a total of 21 credit hours. Targeted candidates will be students with a nursing or a health-related master's degree seeking a Ph.D. degree. Two or three new students are anticipated on an annual basis. These students will be graduates of the Master's Nursing program or a health-related discipline at the University of Manitoba, as well as graduates from other Canadian universities in nursing or health-related disciplines.

The new Ph.D. program will require minimal additional resources from the University of Manitoba. Most courses are already offered by the Faculty of Nursing, the Department of Community Health Sciences, Faculty of Medicine, and the Faculty of Management. The existing administrative, academic, and technological structures of the Faculty of Nursing and the Department of Community Health Sciences are fully capable of absorbing the few additional students in this program. The additional resources needed to support the library will be provided by the Faculty of Nursing.

Long-term infrastructure funding is in place through established academic programs in the two units as well as a ten-year Nursing Chair Award supported by the Canadian Institutes of Health Research, Canadian Health Services Research Foundation, and the Winnipeg Regional Health Authority. The Chair Award titled *Development of Evidence-Based Nursing Practice in Cancer Care, Palliative Care and Cancer Prevention* continues through 2010 and is currently supporting the development of faculty and student resources including infrastructure support for three new tenure track faculty. There are an additional seven faculty members in the Faculty of Nursing and established researchers in the Department of Community Health Sciences who will be able to provide student supervision. These resources will ensure the long term sustainability of the proposed program. The Department of Community Health Sciences and the Faculty of Nursing are well positioned to proceed with the implementation of this Program.

PH.D. DEGREE PROGRAM IN CANCER CONTROL

BETWEEN

THE FACULTY OF NURSING AND THE DEPARTMENT OF

COMMUNITY HEALTH SCIENCES

Prepared by:
Faculty of Nursing and
Department of Community Health Sciences
University of Manitoba

May 9th 2003

GLOSSARY OF TERMS

best evidence: Evidence that has general agreement on its implications and should consist of well established facts or principles which are widely accepted without any serious doubt (Closs & Cheater, 1999).

cancer control: Cancer control aims to prevent cancer, cure cancer, and increase survival and quality of life for those who develop cancer, by converting the knowledge gained through research, surveillance and outcome evaluation into strategies and actions (Cancer Strategy for Cancer Control, 2001).

clinical practice guidelines: User friendly statements that bring together the best external evidence and other knowledge necessary for decision-making about a specific health behavior (Sackett, Richardson, Rosenberg, & Haynes, 1997).

critical appraisal: The process of judging the quality of a study or review and its applicability to practice (Brown, 1999).

dissemination: The communication or spread of new or existing knowledge through a planned or systematic process. The process through which the target groups become aware of, receive, accept, and utilize disseminated information (Kanouse, Kallich, & Kahan, 1995).

evidence: Information based on historical or scientific evaluation of a practice that is accessible to decision-makers in the Canadian health care system. The types of evidence include - experimental (randomized clinical trials, meta-analysis, and analytic studies); - non experimental (quasi-experimental, observations); - expert opinion (consensus, commission reports); and - historical or experiential, (National Forum on Health, 1988).

evidence-based or best practice: Health care practice that is based on the critical appraisal of research findings and the decisions regarding whether and how to use the findings in the care of patients (Hamer, 1999).

research generation: A precise process of producing explanatory knowledge regarding health care methods, processes, experiences, and events. It also establishes assuredness regarding the cause-and-effect relationships between therapies, treatments, provider actions, and patient outcomes (Brown, 1999).

research uptake: The translation and use of research findings in practice or clinical decision-making (Dobbins, Ciliska, & Mitchell, 1998).

research synthesis: The process of identifying, retrieving, critically appraising all available research findings on a health care issue or problem arising in clinical practice. Information is combined with clinical judgment to make clinical and policy decisions about how to deliver the best care to patients (Dobbins et al., 1998).

Proposal for Ph.D. in Cancer Control Between the Faculty of Nursing and the Department of Community Health Sciences

A. Program Description

1. Rationale, objectives and features

I. Rationale

Philosophy of The University of Manitoba

The core vision of The University of Manitoba is "to be one of Canada's outstanding universities, respected for our knowledge of the world, for our understanding of the complexities of our province in its cultural, socioeconomic and scientific dimensions, and for advancing and disseminating knowledge in all domains, but especially in those that contribute to the social and economic development of Manitoba" (The University of Manitoba, 1998, p. 13). The Task Force on Strategic Planning suggested that in order to attain the core vision, it is important for The University to embrace "a common will for change" (The University of Manitoba, 1998, p. 8) or transformation that can "yield innovation and enhance quality in the University" (The University of Manitoba, 1998, p. 7).

The proposed partnership between The Faculty of Nursing and the Department of Community Health Sciences (CHS) signifies an example of an educational program initiated at the grassroots level that is directly responsive to an emerging knowledge-based economy. This knowledge-based economy is powerful enough to change the way we do things by challenging old assumptions and establishing new expectations, for example, in the provision of health care. In light of the current fiscal restraints in health care, evidence-based practice is urgently being promoted by global and local levels of government and health care professional organizations, as a promising solution in assisting decision-makers in health care and policy development to have better information available to them, to use it more appropriately, and to make higher quality decisions. Apart from the transformations that are already ongoing at the University of Manitoba, the proposed Ph.D. Program in nursing represents yet another example of self-reformation at the unit level in response to advances in knowledge and shifts in societal outlooks that promote the need for practical application of best evidence in Cancer Control.

Partnership between The Faculty of Nursing and the Department of Community Health Sciences

Although there may be an expanding volume of research in Cancer Control, much of the evidence produced is not 'practice ready' or clinically useful (Nymark, 2000). In order to make scientific findings clinically applicable, the next step is to appraise them for "clinical usefulness" and "repackage" clinical research in ways that can be communicated and used in practice. However, effective participation in an evidence-based health care system requires expertise and resources of health care professionals that are not possible under traditional educational approaches at the graduate and doctoral levels which tend to target training in knowledge generation alone. The proposed partnership between the Faculty of Nursing and the

Department of Community Health Sciences offers an innovative approach in cultivating a high quality labour force that can serve as a skilled and discerning resource for the generation, translation, dissemination, and uptake of best evidence in clinical practice in Cancer Control across Canada. A range of national and provincial governmental and non-governmental agencies, health care organizations, and research institutes will benefit from the Ph.D. graduates of the proposed Ph.D. Program.

The following provides the rationale for the proposed partnership between the Faculty of Nursing and the Department of Community Health Sciences. First, rather than attempting to develop a new Ph.D. in nursing program at the Faculty of Nursing, University of Manitoba, we decided to build on our strengths and extend the long standing relationship between our two units, the Faculty of Nursing and the Department of Community Health Sciences. Over the past ten years, several nursing students have developed individual interdisciplinary Ph.D. programs that have included core research methods, epidemiology, and biostatistics courses in the Department of Community Health Sciences. According to the 1989/90 to 1998/99 statistics compiled by the Department of Community Health Sciences, nurses constituted the second largest occupational group enrolled in graduate programs offered in the department. Sixteen nurses were enrolled as Master's of science students and eight were enrolled as Ph.D. students. Some of the most important reasons cited by students for choosing the Ph.D. program in Community Health Sciences were to develop or acquire skills in research, increase or broaden knowledge in community health and health systems, and/or develop one's career, improve job prospects, and acquire credentials.

Second, the mission statements of the Faculty of Nursing and the Department of Community Health Sciences are similar in that they promote the creation or advancement, preservation, and communication of knowledge with respect to the holistic (physical, psychological, cultural, and economic) well-being of the public at the individual, family, community, and epidemiological levels. This joint initiative would follow the Canada-wide nursing strategy to develop new competencies in nurses that allow them to focus more on an expanded definition of the patient that includes groups, communities, and population health (Advisory Committee on Health Human Resources [ACHHR], 2000). These new nursing competencies reflect changes in demographics, population health needs, and evolving health care practice in areas such as Cancer Control.

Third, the partnership between the two units promises to offer dual training in the generation or advancement of knowledge in Cancer Control, as well as the dissemination and uptake of knowledge in the practice of Cancer Control. The Department of Community Health Sciences will offer training in advanced research methods and biostatistics, clinical trials, and epidemiology of cancer. This type of concentrated training in research methodology promises to promote the acquisition of expertise not only in knowledge generation, but also specific evidence-based practice skills in the critical appraisal of evidence. The Faculty of Nursing aims to foster a milieu that promotes the acculturation of doctoral students in being able to appreciate, comprehend, and participate in the promotion of evidence-based practice, particularly in the identification, synthesis and transfer of applied knowledge to meet the requisites of an evolving 21st century evidence-based health care system. The partnership between the Faculty of Nursing and the Department of Community Health Sciences will provide both a didactic and practical approach in providing opportunities for new nurse investigators to ensure future knowledge gains in the provision of best practice in Cancer Control.

In summary, the proposed Ph.D. Program offers an innovative approach to encouraging evidence-based practice in the specialized field of Cancer Control. The program recognizes that: first, significant clinical questions raised in the clinical area need to be answered by research; second, educational approaches need to be designed to disseminate information and translate it into clinically usable knowledge in patient care settings; and third, the diffusion of best practice innovations can be enhanced by an educational environment that promotes collaboration between researchers, policy-makers, and practitioners within health care practice disciplines. The University of Manitoba Ph.D. Program will attract students from across Canada and establish the University of Manitoba at the centre of Ph.D. studies in Cancer Control.

Canadian Cancer Statistics and Forecast

As in other specialty areas in nursing, evolving evidence-based practice initiatives will play an important role in the development of cancer nursing's distinctive body of knowledge. The justification for the development of a specialized doctoral program in Cancer Control is informed largely by current and forecasted trends in cancer statistics. Given that cancer continues to be the second leading cause of death in Canada as well as the cause of much suffering, both physical and emotional, cancer care nurses are provided with exciting opportunities to demonstrate a major new contribution to the health of Canadians.

According to the Canadian Cancer Statistics 2000, cancer is the leading cause of premature death in Canada, being responsible for almost one-third of all potential years of life lost (National Cancer Institute of Canada, 2000). The number of new cases for the year 2000 is estimated to be 132,100 and the number of new deaths to be 65,000. The lifetime probability of developing and dying from cancer for males is 40.4% and 26.7% respectively, and for females is 35.3% and 22.2%, respectively. Furthermore, cancer is primarily a disease of older Canadians, with 70% of new cancer cases and 82% deaths due to cancer occurring among those who are 60 years of age or older. Despite the relative stability in the age-standardized rates, the number of new cases and deaths continue to rise steadily as the Canadian population ages (National Cancer Institute of Canada, 2000). Statistics Canada (2000) reports that Canada's population aged 65 and over grew from 3.4 million in 1994 to 3.8 million in 1999, and will reach 4.1 million in 2004 if current trends persist. By 2004, it is estimated that seniors will make up 13.0% of the population and the pace of growth among seniors will accelerate over the next 12 years, as the first baby boomers reach the age of 65.

CancerCare Manitoba predicts that the number of Manitobans living with cancer will increase by 80% over the next 25 years (CancerCare Manitoba, 2001a). Furthermore, the predicted need for nurses in the oncology ambulatory sector alone will double over the next decade. There is also a vital need to increase primary prevention, early detection, and public health efforts throughout the province to reduce the incidence of cancer and the resultant burden on the health care system (CancerCare Manitoba, 2001b).

These trends bring concern not only to health care and policy decision-makers, but also for the general public. The Canadian Cancer Advocacy Coalition recently stated "that Canadians need to shrug off their apathy and get the care they deserve" (Foss, 2000). Quality cancer care requires more money being invested in cancer care and in the standardization of cancer care across Canada so that everyone receives the same treatment that gives them the best hope of long-term survival (Foss, 2000). The cancer coalition has also posited that Cancer Control

programs need to be delivered with more efficiency, greater accountability, and improved quality assurance systems that re-evaluate the way cancer care is being delivered. The urgency for better quality and accountable cancer care is fueled by the cancer coalition group's concerns in regard to forecasted cancer statistics that predict a doubling of new cases in the next decade, which potentially can widen the perceived deficiency in the provision of quality cancer care in Canada.

These statistics offer a reliable and profound database in order to plan patient services and to assist health care facilities and educational programs to meet the increasing demand for best practice in Cancer Control. Current trends suggest not only a steady rise in the demand for cancer care, but also an increasing complexity in cancer care that the public sector is aware of and therefore demanding an increasing emphasis on health care that is based on best evidence. Nurse leaders emerging from the Ph.D. program in Cancer Control will be generating new knowledge to enhance the delivery of health services in all health sectors (hospitals, clinics, and the community). They will also play an important role in educating future nurses through undergraduate and graduate nursing programs. Furthermore, to meet long-term capacity requirements for Cancer Control services at the local and national levels, particularly the reduction of cancer burden, these nurses will play key roles on expert teams in preventive oncology (CancerCare, 2001b). In light of their specialized training in evidence-based practice principles, these Ph.D. prepared nurses will serve as experts in cancer prevention due to their capability to remain abreast of emerging clinical practice problems and current literature, and to conduct relevant Cancer Control research.

Status of evidence-based health care practice

International context

The current impetus for evidence-based practice in western health care systems, such as in the United Kingdom (UK) and the United States (US), is based on the need to provide health care that is equitable and effective for the whole population in a fiscally restrained climate. The first strategy for evidence-based practice began in 1991 in the UK when the National Health Service (NHS) had as its aim the implementation, development, and dissemination of high quality research to improve the health of the nation. A number of UK centres (e.g., NHS Centre for Reviews and Dissemination, UK Cochrane Centre, and the Centre for Evidence-Based Nursing) since then have been established to provide a focus on such activities as examining all the evidence on a particular topic, considering the methodologies used, and attempting to synthesize the results in a way that produce systematic reviews or statements akin to a summary of the state of the science.

In 1993, the international organization known as the Cochrane Collaboration was founded by 77 individuals from eleven countries and today serves as a global enterprise with 15 centres scattered around the world (including the Canadian Cochrane Centre, Health Information Research Unit at McMaster University Medical Centre) with a mission of "preparing, maintaining, and promoting the accessibility of systematic reviews of the effects of health care interventions" (The Canadian Cochrane Network and Centre, 2000). To date, the Collaboration has had less of an influence on nursing practice in that only a small number of systematic reviews on nursing interventions have been conducted, for example, *Nursing Interventions for Smoking Cessation* (Rice & Stead, 2000). This is expected to change in the near future due to mounting pressure for all health care practices to be evidence-based.

The University of Manitoba is affiliated in several ways with the Cochrane Collaboration. First, Dr. Michael Moffat, Department of Community Health Sciences currently serves as a site representative for The Canadian Cochrane Network and Centre at the University of Manitoba. Second, Dr. Lesley Degner, Faculty of Nursing, University of Manitoba serves as a member of the local advisory group in Manitoba for the Canadian Cochrane Network and Centre. Third, the Department of Community Health Sciences provides financial support toward the University of Manitoba, Neil John MacLean Health Sciences Library subscription to the Cochrane Library DataBase on systematic reviews.

As a component of the US Public Health Service, the Agency for Healthcare Research and Quality (AHRQ), formerly established in 1989 as the Agency for Health Care Policy Research (AHPCR), has a similar mission as the Collaboration in that it not only provides robust meta-analytical publications, it also produces succinct briefing and decision-support materials for hands-on clinicians as well as parallel documents designed to empower patients. Despite some examples where nursing has demonstrated either internationally known (e.g., the Joanna Briggs Institute for Evidence-Based Nursing established in late 1996 in New Zealand) or long standing experiences in the application of research in nursing practice (e.g., the Conduct and Utilization of Research in Nursing [CURN] project conducted in the mid-1970s in the US), widespread adoption of evidence-based nursing practice has not yet been realized.

Canadian context

In Canada, government funding historically has not matched the expansion and evolution of health system requirements (Nymark, 2000). It is well-known that the health sector is lagging in terms of being able to gather and share information about outcomes, and about which treatments work best and which management practices are the most successful. Although Canadians spend over $70 billion annually on health care, little is known about how effectively these dollars are being spent (Health Evidence Application and Linkage Network [*HEALNet*], 1997).

Furthermore, in Canada there has been no "readily identifiable centers or programs and very few individuals who espoused expertise" in research utilization in health care (Estabrooks, 1999). However, since the National Forum on Health (1998) called for the development of an evidence-based decision-making culture, great challenges and opportunities exist for nurses and other health care professionals to advance evidence-based practice in the country. It is only in recent years that Canadian funding agencies have decided to target the need to optimize the use of research findings to improve decisions in the health system and the workplace through the transfer and uptake of research evidence. For instance, the *HEALNet* is a National Centre of Excellence in Canada which received core funding in 1995 from the Medical Research Council (MRC) and the Social Sciences and Humanities Research Council (SSHRC) to gain a better understanding of how health decisions are made and how to improve decision makers' access to relevant information. A number of other evidence-based health care organizations currently exist across Canada, for instance, the Cancer Care Ontario Program in Evidence-Based Care and the British Columbia Council on Clinical Practice Guidelines (The Canadian Cochrane Network and Centre, 2000). However, study protocols that have been given preferential treatment for funding are generally randomized controlled trials, which suggests there has been a medical monopolization of available funding and resources. This funding pattern has restricted or undermined nursing research in relation to knowledge generation and utilization in practice settings. To date, nursing has conducted only

ad hoc activities to develop evidence-based nursing practice in health care settings; for example, the three year demonstration project funded by the Ontario Ministry of Health with the goal of increasing evidence-based decision-making by nurses with a focus on pressure ulcers (Logan, Harrison, Grahm, Dunn, & Bissonnette, 1999).

However, in 1997 the federal government created the Canadian Health Services Research Foundation [CHSRF] which sponsors and promotes applied health systems research, and serves to facilitate the use of quality research in evidence-based decision-making by policy makers and health systems managers (CHSRF, 2000). More recently, the CHSRF and the Canadian Nurses Association (CNA) allocated $150K for the first year of development of the Canadian Nursing Knowledge Network (CNKN) (CHSRF, 2000). This is part of a five-year initiative to enhance the CNA's capacity to disseminate relevant research to nurses. With support from the Canadian Institutes of Health Research (CIHR) and co-sponsorship from the CNA, the CNA is also offering a post-doctoral fellowship for a "Scholar-in-Residence" in nursing policy research or knowledge dissemination and uptake to be held at the CNA (CNA, 2000). In sum, these recent initiatives will support the nursing profession in its response to the 21st century demand for nurses to illustrate the effectiveness of nursing interventions, both in terms of cost and patient outcomes.

II. Innovative Features of the Ph.D. Program

Chair Award

On June 13, 2000, the CHSRF and the CIHR announced $25 million to support the establishment of 12 Chairs in health services and nursing research at eight Canadian Universities. The Chairs form the backbone of a national network linking professors, students, and decision makers in institutions and regional training centres across the country. One of these Chairs, valued at $1.7 million, is located at the University of Manitoba, Faculty of Nursing to support Dr. Lesley Degner in a program entitled, *Development of Evidence-Based Nursing Practices in Cancer Care, Palliative Care, and Cancer Prevention.* With an emphasis on education and mentoring, the Chair Award Program promises to expand research opportunities available for students in cancer nursing.

The Academic Component of the Chair Award Program

Educational initiatives of the Chair Award to be developed include

- Ph.D. Program in Cancer Control offered by the Faculty of Nursing and the Department of Community Sciences, Faculty of Medicine
- Joint Master's with an oncology focus with the School of Nursing, University of Minneapolis, Minneapolis, Minnesota
- Post BN Fellowship in Knowledge Transfer for oncology nurses from across Canada
- Summer Institutes in evidence-based practice for oncology nurses across Canada
- Cancer nursing research updates to cancer agencies across Canada

Features of the Academic Programs

- Ph.D. program has a strong emphasis on evidence-based nursing practice, as well as

knowledge generation
- Each student has a decision-making partner in the health services policy sector
- First year tuition is paid out of the Chair Award
- Students are expected to study full-time

Features of the Master's Program in Nursing

- Students have the opportunity to attend one term at the University of Minnesota for their clinical major in cancer care
- First year tuition is paid out of the Chair award
- Students could easily move into the Ph.D .program after completing the Master's degree and complete both the Master's and Ph.D. programs within five years.

The academic component of this initiative is housed at the Faculty of Nursing. The ten year vision for the Chair Award Program at the Faculty of Nursing involves a sequenced and structured process to produce a major shift toward evidence-based nursing practice in three domains of Cancer Control: cancer care, palliative care, and cancer prevention. Given the geographic size of Canada and given the fact that health care is structured on a provincial rather than a national basis, we will need to develop three new national networks of leaders in cancer nursing practice to facilitate the transfer and uptake of knowledge by nurses with responsibilities in each of the three targeted domains.

The first three years will focus on development of the network of leaders in cancer nursing practice, which will include all directors of nursing in cancer agencies, who will meet on a regular basis via video-conferencing and/or internet based conferencing to guide development of the several components of the Chair Award Program. These include: a post-BN fellowship in knowledge transfer; summer institutes on targeted aspects of evidence-based practice available to all levels of cancer nurses; and regular monthly updates on cancer nursing research to be transmitted to cancer agencies and/or individual practitioners via video-conferencing and/or internet conferencing approaches. The Ph.D. students will be expected to participate in the post-BN nursing fellowship program, and the Master of Nursing students will be expected to participate in the summer institutes. Both groups of graduate students will participate in producing the monthly cancer nursing updates transmitted to cancer nurses across the country. It is expected that these interactions will stimulate the development of academic research programs that are directly responsive to the concerns and experiences of our practicing colleagues.

The lessons learned in the process of developing this first network will be used to guide the subsequent development of similar networks for transfer of knowledge and evaluation of evidence-based nursing intervention protocols in palliative care (years 5 through 7) and cancer prevention (years 8 through 10). The cancer agencies have been chosen as the first target because there is sufficient existing knowledge to attempt knowledge transfer and because they provide a definable target population. The over arching goal of the various educational and research initiatives for the first three years of this Chair Award Program will be to develop evidence-based nursing protocols for transfer to cancer agencies across Canada, and to evaluate the effect of the new protocols on patient outcomes. The Faculty of Nursing has a long term plan to ensure the sustainability of the program (see letter from Dean of Nursing).

The Research Component of the Chair Award Program

Features of the Research Component

- to compete for national funding to support large scale, multi-site projects to study problems of national relevance in the fields of cancer care, palliative care, and cancer prevention
- to conduct such multi-site studies through our coordinating centre in Winnipeg, meeting pre-determined accrual rates
- to publish the results of these studies in high impact journals
- to sustain a research infrastructure that is supportive of our graduate students and junior faculty members in their research activities
- to initiate knowledge transfer projects where interventions are determined to have positive outcomes.

For the past ten years, Dr. Degner has been actively building a research group in the field of psychosocial oncology. This group originated as the *Cancer Nursing Research Group* which has since expanded to include researchers and clinicians from a variety of disciplines. The group has been housed in the St. Boniface General Hospital Research Centre. This Centre will continue to house the clinical research projects in cancer nursing through their provision of 2000 square feet of space and related services. The in-kind contribution of the St. Boniface General Hospital Research Centre recognizes the ongoing commitment of the St. Boniface General Hospital Research Foundation to the development of cancer nursing research. There are plans for a new clinical research building at the hospital, which would provide additional resources to the Chair Award Program in the future. The contribution of the National Cancer Institute of Canada and the Canadian Cancer Society provides the Cancer Nursing Research Group with infrastructure resources to support the research enterprise, including support for the Project Manager, research assistants, data entry and analysis, and research supplies.

The Canadian Cancer Society and the National Cancer Institute of Canada have recently established joint organizational goals. The over arching theme of these goals is to link science to policy to practice. The Centre for Behavioural Research and Program Evaluation (CBRPE) was established to support these joint goals. CBRPE is funded by and accountable to the Board of the National Cancer Institute of Canada. All funding for the Centre is derived from the Canadian Cancer Society. The mission of the centre is to conduct research that contributes to improved cancer prevention and care. In support of this mission, CBRPE has established a national Sociobehavioural Cancer Research Network (SCRN). The purpose of the network is to establish SCRN Research Teams, designed to link top investigators across the country into teams to conduct research that would contribute to improved Cancer Control policies and programs and Satellite Research Centres, designed to provide data collection capacity in all regions of the country. In 2000, Dr. Degner and her colleagues received infrastructure funding for both the Manitoba Satellite Research Centre (SRC) and a research team in the field of patient and physician communication in the context of cancer. Manitoba was the only province to receive funding for both a satellite centre and a research team.

Current areas of research being pursued in the context of the SCRN include: developing nursing interventions to foster patient participation in clinical decision-making with a view to evaluating the effect of increased participation on patient outcomes; innovative approaches to symptom management in children with cancer and palliative care patients; smoking cessation in

pregnant women and adolescent girls; and the self care needs of people with a family history of cancer. These research areas will evolve as we attract students with varying interests and clinical backgrounds, and as a result of input from the networks we intend to develop with practicing nurses across the country. Graduate students attend meetings of the Manitoba SRC and benefit from their interaction with the wide range of scientists who are a part of the centre.

Historically, it has been difficult for investigators to achieve an impact on health policies and health practices. However through our involvement with the SCRN, we will initiate and conduct studies in partnership with the major decision-makers responsible for shaping Cancer Control policies and programs of the Canadian Cancer Society. This makes it possible to align the research agenda with the information needs of decision makers. Since we operate as part of the SCRN, under the auspices of the Canadian Cancer Society, which is the country's largest health charity, and the National Cancer Institute of Canada, we benefit from the influence exerted by these national organizations. This lends credibility to the SCRN and makes it possible to attract involvement of those responsible for the direction of Cancer Control policies and practice in Canada. The long term vision for the associated research program will be to generate knowledge of national and international relevance in the broad fields of cancer care, palliative care, and cancer prevention. The evolution of these national studies will be guided by the national advisory network of key stakeholders formed by CBRPE. Our interactions with this advisory network will ensure that our research programs maintain an interdisciplinary orientation and address issues of national and international relevance. This will ensure that our graduate students become involved in research of high quality and high relevance.

Linkage and exchange among practice, education, research, and health policy sectors in cancer care

The proposed Ph.D. program under the Chair Award Program promises to encourage linkage and exchange between educators, care providers, researchers, and policy-makers in their provision of support toward fostering best practice in the area of Cancer Control. First, with the development of three new national networks for nurses working in the field of Cancer Control, nurse managers will be able to identify potential students across Canada (i.e., Master's prepared) who are qualified and interested in pursuing advanced training in evidence-based practice in Cancer Control.

Second, at the end of ten years, we expect to see that this Chair Award Program will link academic nurse scientists and their graduate students with nursing practitioners in cancer centres, palliative care programs, and cancer prevention programs across Canada. This program requirement will provide Ph.D. students with experiences in developing and testing outcome measures for the evaluation of practice and in participating with clinicians in implementing and evaluating research-based practice changes. This will provide opportunities for students to develop relevant skills that will be useful later when directing others.

Third, through our working relationship with an existing national cancer research network (the Sociobehavioural Cancer Research Network) and national cancer organizations (the National Cancer Institute of Canada and the Canadian Cancer Society), students will benefit from linkage and exchange activities by being ensured that their research projects are responsive to the needs of policy makers and program managers. The innovation of the Chair Award Program lies in its potential to link nursing in a structured fashion to the broader arena of cancer

research and cancer policy in a way that does not currently exist.

Model of mentorship

A notable feature of the Chair Award Program is that there will be strong commitment to mentorship in a variety of forms. For example, Ph.D. students will benefit from participating in the post-BN nursing fellowship program and working with senior managers in cancer agencies to produce monthly cancer nursing updates which will be transmitted to cancer nurses across the country. This Ph.D. program experience will extend our present mentorship model where interactions between Master of Nursing and Ph.D. students stimulate the development of academic research programs that are directly responsive to the concerns and experiences of our practicing colleagues. Under the proposed initiatives outlined in the Chair Award Program, significant interaction will be facilitated among students, professors, leading investigators, support staff, practicing clinicians, program managers, and policy makers. All members on the proposed Ph.D. program training team (i.e., educators, researchers, and clinicians), including doctoral students will be expected to contribute to the educational experiences of all students. As opposed to the hierarchical approach, this multifaceted approach to mentorship will lead to greater independence for the students.

Funding opportunities for Ph.D. students

As with any graduate program of study, there is a need for student funding for living expenses, research expenses, and tuition. To date, our Master's students have been extremely successful in obtaining national clinical fellowships to study oncology nursing from the Canadian Cancer Society (the Maurice Legault awards of $18,875 per year for two years), with 11 awards coming to the Faculty of Nursing since 1992. These awards have enabled our students to study on a full-time basis. The Chair Award will fund first year Master of Nursing and first year Ph.D. student fees ($4200/year). The addition of the Murphy Foundation Scholarships made possible through a private donation will enable the Faculty of Nursing to provide two $5000 awards or one $10,000 award per annum to Master's and/or Ph.D. students studying cancer nursing.

To date, we have five students who have graduated from the Individual Interdisciplinary Ph.D. program (IIP) in cancer nursing/palliative care fields. Each of these students has been very positive about the research training they received in their interdisciplinary programs. Four of these students received national fellowships to support their Ph.D. studies in prestigious national competitions, and have graduated with strong publication records. Ph.D. students can also apply for National Cancer Institute of Canada or CIHR doctoral studentships worth $20,000 per annum. The availability of new "top up" awards of about $10,000 from the Faculty of Nursing and the Faculty of Graduate Studies should also benefit incoming Ph.D. students, as they will be available to any student who has competed successfully in any national Ph.D. fellowship awards competition. Students will also be funded for conferences and collaboration with our international partners in England and Sweden.

III. Objectives

The proposed program will be a Doctor of Philosophy degree with a focus on specialization in Cancer Control. The primary objective of the program is to provide doctoral studies in knowledge generation, critical appraisal, synthesis, and dissemination/uptake of research

through a joint educational program between the Faculty of Nursing and the Department of Community Health Sciences, Faculty of Medicine. This program promises to provide a specialty-training opportunity for doctoral students in Cancer Control to gain the new knowledge and skills needed to meet practice requirements evolving from changes in health care. To meet long-term capacity requirements for Cancer Control services across Canada, the proposed program will also produce nurse leaders with specialized knowledge and skills in evidence-based practice principles. These nurse leaders will serve as players on expert teams in the Cancer Control arena, including those found in Health Canada, provincial health departments, cancer care agencies, regional health authorities, and non-governmental organizations (e.g., Canadian Cancer Society/National Cancer Institute of Canada, and the Canadian Association of Provincial Cancer Agencies).

Specific objectives of this program will be to:

- provide excellent doctoral-level education in the specialty area of Cancer Control to students with varying interests and clinical backgrounds
- provide a workable model for the integration of science and practice on a national basis to meet evolving recommendations for long-term capacity requirements in Cancer Control services
- produce a strong cadre of academic investigators who are expected to develop independent investigation but are strongly influenced by the realities of practice
- foster a learning environment that stimulates in students an attitude of critical inquiry in order to promote a health care system that is responsive to best nursing practice in the field of Cancer Control
- provide students with a variety of 'traditional' and innovative learning approaches in addition to course work
- enhance the existing body of oncology nursing knowledge by generating knowledge of national and international relevance in the broad fields of cancer care, palliative care, and cancer prevention
- provide opportunities for students to serve governmental and non-governmental agencies across Canada by helping to stimulate the development of research programs that are directly responsive to the concerns and experiences of practice colleagues in Cancer Control
- create opportunities for students to interact with individuals in other UM units, academic institutions, governments, non-governmental organizations, and cancer agencies.

IV. Strengths of the program

The proposal for the Ph.D. Program in Cancer Control between the Faculty of Nursing and the Department of Community Health Sciences demonstrates how the University of Manitoba is a dynamic entity that evolves and responds to meeting the social, political and health needs of society. This proposal reflects how changes can be undertake to propel the University to "a new level of educational quality, research, and scholarly achievement and community service" (University of Manitoba, 1998). In line with the mission of the Faculty of Nursing, the Ph.D. in Cancer Control will offer an advanced program that is not only economical, but also socially responsive, flexible, and practice based (University of Manitoba, 2000). More specifically, the proposed Ph.D. program serves as an innovative means of responding to the wider public service sector movement toward the provision of a new form of health care delivery, health care decision-making, and health care policy development that captures accountability, quality

assurance systems and audit in terms of evaluating the way health care is delivered in the cancer population. The program promises to enrich student spirits by providing knowledge to help them cope with evolving cultural and social expectations in the provision of best health care practices, produce research that is not only valued for the advancement of pure knowledge, and transfer applied knowledge to health care practice, particularly in the specialized field of Cancer Control.

The following strengths exist in the specific details of the proposed Ph.D. program. First, the program will foster collegial linkages initiated by students at the Master's and Ph.D. levels that will lay the foundation for a strong network of practitioners, educators, researchers, program managers, and policy makers in the next generation, thereby reducing the isolation of one group from the other that is commonly seen today. Second, the program will provide a potential resource by preparing a cadre of investigators who will serve a major role in assisting front line managers to know where to turn when they wish to make practice changes that are informed by the latest evidence. Third, the program will promote the preparation of Ph.D. students who will have a focus not only on knowledge generation, but also on knowledge synthesis and dissemination or uptake. Fourth, the proposed program will create a generation of investigators to assume expanded scientific roles and to provide leadership for a new approach to science in nursing - 'evidence-based nursing practice' in Canada. In their training, these investigators will be taught how to assume shared responsibility with nursing administrators, health care organizations, and individual professional nurses to move research-based knowledge into practice and to strengthen the research-to-practice continuum through research utilization. Fifth, the program will promote the potential linkage of nursing to the broader arena of research cancer policy in a way that does not currently exist.

Sixth, there is a salient need for strategies to reduce the projected increased burden of cancer across Canada. The proposed Ph.D. program addresses the need for doctorally prepared nurses who can contribute to more comprehensive Cancer Control programs that not only involve cancer care (or treatment), but also implement appropriate prevention programs. Consistent with the principles for developing a national cancer prevention system (CancerCare Manitoba, 2001b), the students will not only develop specialized knowledge and skills in population-based public health approaches, stakeholder collaboration and service integration, and accountability for resource utilization, but will also be capable of staying abreast of current and emerging research as directed by the fundamentals of evidence-based practice.

Other Linkages

The Faculty of Nursing has developed linkages with other university faculty members who have expertise not only in certain research methodologies, but also in specific areas in cancer nursing research. For instance, The Faculty of Nursing has a cooperative research program with the University of Manchester, School of Nursing, Midwifery and Health Visitors to promote the development of mutually beneficial research programs and research studies at the graduate-level. The Dean of the School of Nursing at the University of Manchester, Dr. Karen Luker, has been an adjunct professor with the Faculty of Nursing, University of Manitoba since 1999. Her expertise lies in how research impacts clinical practice, the development of national clinical guidelines on the management of uncomplicated venous leg ulcers, and research that addresses the needs of cancer patients and their families and other community populations. She has conducted collaborative research projects with Drs. Degner and Chalmers of the

Faculty of Nursing since 1992. Another linkage currently exists with the Faculty of Nursing at the University of Tennessee (Memphis). Dr. Cynthia Russell, appointed as an adjunct professor, has expertise in qualitative research methodology and information technology systems. In addition, Dr. Carol Tishelman, Associate Professor, Karolinska Institutet, Department of Nursing and Department of Public Health Sciences Division, Stockholm has maintained a long time relationship with Dr. Degner in which they have engaged in a number of international collaborative research projects in different areas. Her expertise lies in her fundamental work related to patients' perceptions of symptoms and the manner in which patients and family members interpret and cope with the cancer illness experience. She has worked with both qualitative and quantitative research approaches to study meanings that individuals assign to their perceptions of illness. The Faculty of Nursing also has a research linkage with the Mayo Clinic in Rochester, Minnesota through an adjunct professor, Dr. Jeffrey Sloan. Dr. Sloan has a program of research that focuses on quality of life in cancer patients. Several faculty are linked to research projects originating at the Mayo Clinic. The master's and Ph.D. students would also have considerable access to these collaborative projects at the international level.

2. Context

I. Program response to current or future needs of Manitobans and/or Canada

Paradigm shift across health care systems

There is a paradigm shift occurring across today's health care systems across Canada to which the proposed Ph.D. program is responding. Evidence-based practice represents a paradigm shift from decision-making that has been based on traditional practice, clinical experience, pathophysiologic rationale, opinion-based processes, and intuition-based practices of physicians, nurses, and other health care professionals to one that is based on best practice evidence. As described earlier, the National Forum on Health was launched in October 1994 to advise the Federal Government on innovations to improve the health system and health of Canadians (National Forum on Health, 1998). As a result, the current movement we are seeing in Canada toward evidence-based health care practice stems from the recommendations of leading authorities who met at the Forum to discuss how health information might be used to foster an evidence-based decision-making culture and to consider how to get that information to health care professionals. Health care practitioners are being called on to critically question their current practices and to find alternatives using evidence-based methods for making decisions that are essential for maximizing the quality and cost-effectiveness of care. The following section will elaborate on various local/national government, professional nursing organization, and nursing education initiatives that are being taken to facilitate evidence-based nursing practice across Canada.

Commitment within Manitoba toward evidence-based practice

In the document, "Achieving Accountability" the Manitoba government addresses the need to improve the overall quality of the province's health care system with a refocus on accountability to individuals in Manitoba (Manitoba Health, 1999). As part of the strategy to bring decision-making closer to the community, the Manitoba government decentralized health care planning by establishing local regional health authority (RHAs) boards that are charged with a broad

provincial policy direction to plan, manage, deliver, monitor and evaluate health services within their regions. As part of their accountability role, the RHAs are vested with authority to initiate practice-based research, participate in provincial research, and establish 'best practice' standards to ensure that Manitoba citizens receive the same high quality care. Due to increased pressure on resources and a desire to ensure services are appropriate in meeting the health care needs of individuals, the Manitoba government health policy has advanced a focus on delivering clinically effective care that is based on best practice. The Manitoba government and other provincial governments across Canada are supportive of the development of evidence-based practice as they see its advantages in terms of improved efficiency in the delivery of health care through identification of effective treatments. A key goal is to improve health care delivery by making health care decision-making more evidence-based.

Nursing profession goals

Professional associations in nursing have published statements outlining the research expectations for nurses at all levels in order to realize a research-based nursing practice. Standards for research use and its impact on practice are increasingly included in those set for the nursing profession. Clearly evidence-based nursing practice has evolved into a professional responsibility and not merely a nursing service issue.

The CNA (1998) Policy Statement, "Evidence-Based Decision-Making and Nursing Practice" describes quality nursing practice as founded on registered nurses who use evidence-based decision-making. It is the CNA's position that individual nurses, professional associations, schools of nursing, organizations that employ nurses, accreditation councils, and governments develop and/or fund strategies that facilitate evidence-based practice and decision-making. Educational institutions and nursing educators have a responsibility to assist nurses in developing the skills and abilities to assess, interpret, and incorporate evidence into their practice on a continuing basis. It is through basic and continuing nursing education programs which reinforce research utilization in practice that competencies for best practice can be developed. However, literature indicates that the educational system has not adequately responded to the need for educational experiences that prepare nurses for integrating research into their clinical practice and for identifying the essential research-related content at each academic level (Crane, 1995). The CNA (1997) advocates the need to increase Ph.D. preparation in nursing to promote the uptake of research that advances knowledge and evidence-based practice in clinical settings.

The Canadian Association for Nursing in Oncology (CANO) has developed its own standards for specialized practice in cancer care. More specifically, the Standards of Oncology in Nursing Education (CANO, 1995a) and the Standards of Oncology Nursing Practice (CANO, 1995b) speak to the need for nurses of university graduate programs to apply the scientific method to initiate, evaluate, and apply nursing research findings within the scope of advanced practice in oncology nursing. In order that oncology nurses fulfill professional responsibilities, CANO stated that nurses are required to be knowledgeable about nursing research and utilize the findings in practice, demonstrate an attitude of critical reflection, and participate in research activities to expand the body of knowledge in Cancer Control. One mandate of CANO's Research Committee is to engage in efforts to address concerns and issues in relation to research, to encourage evidence-based practice through increasing knowledge of research and research utilization, and to guide the evaluation of special initiatives.

However, the CANO's expectations for evidence-based nursing practice in Cancer Control have so far exceeded reality. An informal telephone survey was conducted across Canada with nurse educators in various cancer care agencies. This survey revealed that the clinical application of research findings (for example, in the form of clinical practice guidelines or protocols) in cancer nursing practice and Cancer Control is dependent on the clinical institution (see Table 1). Nonetheless, nurse educators have expressed their unanimous support toward the development of an advanced educational program that can build nursing expertise to synthesize, translate, and disseminate research findings into clinical practice in Cancer Control.

In summary, governmental bodies and professional associations in nursing recognize that health care professionals such as nurses who are in direct patient care are vital to the realization of research-based practice. Essentially nurses are in front-line positions to identify relevant research questions and to implement the products of research that can impact quality of patient care across health care systems. Current decision-making processes in health care delivery are described as being incomplete and numerous governmental and professional bodies are advocating the need for a "new paradigm" to guide the Canadian health system into the next century. The new expectations as described in health care policies and nursing profession standards across the nation place an onus on health care organizations to expect no less of health care professionals than to practice within a critical and reflective professional practice model that is based on best evidence.

Evolution of nursing practice and education to meet health care needs or goals

In September 1999, the federal/provincial/territorial Ministers of Health directed the Advisory Committee on Health Human Resources (ACHHR) to prepare options for consideration to strengthen health human resource development. As part of this work, the ACHHR Working Group on Nursing Resources, in consultation with nursing stakeholders, developed "The Nursing Strategy for Canada" (ACHHR, 2000). One nursing strategy option as recommended by the ACHHR is that the most cost-effective delivery alternatives for nursing services must be identified and promoted. This includes evidence of specific competencies in evidence-based nursing practice that reflects the changing culture of practice settings in health care (ACHHR, 2000). Within this new health care culture is an emergent attitude of receptivity toward research and academic scholarship which combines with clinical excellence and teaching to provide an environment supportive of clinically effective care (Benton, 1999). Academic preparation that is 'nested' in an educational culture that fosters critical enquiry and evidence-based practice is now being given a much higher priority than has been in past years.

In Canada, nursing education is moving in the direction of higher education sectors. Increasing numbers of nurses are pursuing Master's and doctoral degrees. From 1984 to 1995, the number of students enrolled in Master's programs increased by 79% nationally, with Western Canada having experienced the greatest change of 158% from 168 in 1984, to 411 in 1994 (CAUSN, 1997). The number of students enrolled in doctoral programs in nursing has gradually increased between 1990 (n = 8) and 1995 (n = 53). In light of the growing numbers of nurses who are seeking advanced preparation, educational environments need to be responsive to a changing health care culture by taking the opportunity to produce a cadre of clinicians who are available and competent to challenge nursing practice in a more robust and scientific manner.

Academic Community in Manitoba

The need for Ph.D. education was recognized by the Faculty of Nursing at the University of Manitoba over a decade ago. In 1992, the Faculty of Nursing received a development grant for nursing research from the National Health Research Development Program/Medical Research Council. One of the objectives of this grant was to build the research base in the areas of cancer care, palliative care and cancer prevention in preparation for offering a Ph.D. program. Research capacity grew considerably during the 1990s and led to the enrolment of several graduate nursing students in IIP programs and in doctoral programs in fields such as psychology, community health sciences, and anthropology. In 1999, there were 11 nurses with a Ph.D. in nursing who were employed in Manitoba in the nursing field (Canadian Institute for Health Information [CIHI], 2000).

Currently, a systematic data base does not exist on the background of graduate students (including registered nurses) enrolled in IIP programs at the University of Manitoba. However, based on an informal survey of convocation records and communication held with contacts at individual faculties that offer doctoral education at the University of Manitoba, the following offers an estimate of the number of registered nurses who have graduated between 1990 and 2000: Individual Interdisciplinary Doctoral Programs (n = 7), the Department of Community Health Sciences, Faculty of Medicine (n = 4), the Department of Psychology, Faculty of Arts (n = 2), and the Department of Anthropology, Faculty of Arts (n = 1). In accordance with recent statistics held by the Faculty of Graduate Studies (1999 to present), there are a total of 10 graduate students with nursing backgrounds who are either currently enrolled in or have graduated recently from IIP programs (Andrea Cantlin, Faculty of Graduate Studies, personal communication, September 5, 2000). In addition, as part of a "special case" project, a cohort of five registered nurses have received initial infrastructure supports (e.g., video-conferencing and access to research assistant-ships) from the Faculty of Nursing in Manitoba to obtain their doctoral training at the University of British Columbia. Three other registered nurses from the province are currently enrolled in doctoral programs offered either at the University of Toronto or in the United States at the University of Washington.

Academic Community across Canada

Registered nurses prepared in Canada at the doctoral level are needed to research, develop, disseminate, and evaluate on an ongoing basis nursing knowledge and its practical applications in order to support the continuous enhancement of health outcomes for Canadians (CNA, 1997). In 1999, only 0.1% (n = 194) of registered nurses reported Ph.D. level preparation in nursing and were employed either full-time or part-time in the field of nursing. There were an additional 27 registered nurses who are Ph.D. prepared but not employed in the field of nursing (P. Sajun, CIHI, personal communication, September 20, 2000).

Across Canada, Faculties of Nursing are developing Ph.D. programs. The first student to receive a Ph.D. in nursing from a Canadian University was a special case graduate of McGill University in fall 1990. Special case students were admitted into the McGill University program between 1987 and 1992. Approved doctoral programs in nursing began in 1991 with admission of students to the University of Alberta. Three more programs at the University of Toronto, University of British Columbia, and jointly at McGill University and l'Universite de Montreal began in fall 1993. A fifth doctoral program was launched in fall 1994 at McMaster University (Canadian Association of University Schools of Nursing [CAUSN], 1997). Currently, a total of

nine Ph.D. programs exist across Canada. Two of these programs are offered in the French language at the University of Montreal and the University of Sherbrooke. Of the remaining seven programs, four are offered in Western Canada at the University of Alberta, the University of Calgary, the University of British Columbia, and the University of Victoria (by special arrangement). The remaining three Ph.D. programs in nursing are offered at the University of Toronto, McMaster University, and McGill University. No doctoral programming currently exists in Saskatchewan or Manitoba. See Table 2 for admissions and enrollments into each of the doctoral programs across Canada between January and December 1998 (CAUSN, 1998).

Ph.D. Programs in nursing (see Table 3)

The Ph.D. program at the University of Toronto is offered within the Faculty of Nursing. The program has three areas of specialization: Nursing Science of Healthy Individuals and Families; Nursing Science of Individuals and Families Experiencing Acute and Chronic Illness; and, Science of Nursing Administration. There are four required courses, one of which is an advanced statistics course that can be taken from a department of the student's choice. Prior to entering the program, students must find an advisor who matches their stated goals. Although courses in critical appraisal of research are offered at the Master's level, similar courses at the Ph.D. level are not offered at the University of Toronto.

The Ph.D. program at McMaster University is offered under the clinical health sciences umbrella with a nursing program component. Students are encouraged to maintain a place of work which is utilized as their laboratory. The student's area of research interest is matched to that of their advisor's research area. Currently, McMaster University is developing two evidence-based practice in nursing courses. Statistics courses are not required, but can be taken through other faculties.

The Ph.D. program at McGill University is offered through the Faculty of Nursing. The students do not enter a specific field of study, but their work must fit with their advisor's research program. No courses on evidence-based nursing practice are currently offered.

The Ph.D. program at the University of British Columbia is offered through the Faculty of Nursing. Student advisors are selected to match the student's area of research interest. The required advanced statistics course is offered through the Department of Educational Psychology. No courses on evidence-based nursing practice are offered.

The Ph.D. program at the University of Victoria is offered by special arrangement through the Faculty of Nursing. Students submit a letter of intent, which is then forwarded to a selection committee. The selection committee then determines the student's advisor. Students are open to taking any courses available on or off campus. Most students develop directed studies with their advisors and other professors within the University. The University of Victoria offers a multidisciplinary Master's program with social work, and also works closely with the Faculty of Education.

The Ph.D. program at the University of Calgary is offered through the Faculty of Nursing. Students may take courses by distance education. The program of study is determined by the student advisor's area of research interest. Students are required to take two research courses that are individualized to their project and advisor's suggestions.

The Ph.D. program at the University of Alberta is offered through the Faculty of Nursing. It is a highly individualized program that does not have a set number of required courses. A key element of the program is the student's conduct of original research. The theme of evidence-based nursing practice is woven throughout the student's program of study.

In summary, nurses with doctoral level training are increasingly needed. In Canada, nine universities have responded to this need by offering Ph.D. programs in the field of nursing. However, none of these programs exist in the central Provinces of Saskatchewan or Manitoba. In regard to local need, registered nurses at the graduate level in Manitoba interested in continuing to pursue their doctoral education have had several choices: either enter the IIP program or doctoral programs offered in fields other than nursing (e.g., psychology, community health sciences, or anthropology) at the University of Manitoba, or leave the province and pursue studies at a university which offers a Ph.D. program in nursing either in Canada or in another country. This Ph.D. program would help to address some of the local needs for doctoral level education in nursing.

Furthermore, the existing doctoral programs are insufficient to meet the anticipated demand for highly qualified professionals with focused expertise and knowledge in the synthesis, dissemination, and evaluation of results of research and quality improvement findings in Cancer Control. Most nurses in current Ph.D. programs in Canada are trained to conduct research, but not how to synthesize, translate research findings into useable formats in clinical practice, disseminate, or promote the uptake of the research. However, from every indication, local and national governmental and professional organizations share a vision for a 21st century health care system that is reliant on practices that are evidence-based. Therefore, Ph.D. programs in nursing are required to develop and fund strategies that facilitate evidence-based decision-making by registered nurses and quality nursing practice. Future efforts should be aimed at either changing or developing the curriculum of doctoral education to enhance the capability of nurses to bridge the two worlds of conduct and utilization of research. The proposed Program between the Faculty of Nursing and the Department of Community Health Sciences offers a new curriculum that will contribute not only to an understanding of knowledge generation and the conduct of research, but also to the utilization of research outcomes and methods to directly enhance nursing practice in the arena of Cancer Control.

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

It will be common knowledge to outsiders that the proposed program will be oncology nursing oriented and will build on the need to train Ph.D. students in knowledge synthesis and dissemination/uptake. This Ph.D. program in Cancer Control will be noted also in terms of its innovative approach to mentoring investigators in a collegial environment where students are guided by topics and issues offered by practicing colleagues in nursing, researchers, program managers, and policy makers. Through the program's linkage with the SCRN, it will be recognized that doctoral students are regarded as integral players on an interdisciplinary team that is responsive to research policy issues of national and international importance. Outsiders will also identify the Ph.D. program as one that promotes interactions between graduate students and practicing colleagues that, in turn, has the potential to stimulate the development of academic research programs that are directly responsive to the realities of clinical practice. Outsiders will recognize the Ph.D. program as one that represents a workable model for the shifting of nursing practice where there is an integration of science and practice on a national

basis. Finally, this Ph.D. program will be recognized as a timely and innovative educational strategy that is able to produce a cadre of nurse leaders who can answer to the urgent call by cancer agencies to develop a comprehensive and coordinated system of Cancer Control efforts that target the delivery of primary prevention (in addition to cancer care or treatment) at the national, provincial, and local health organization levels.

III. Extension to Existing Programs

The University of Manitoba is the largest of Manitoba's three universities, offering the bulk of the province's professional programs and having the only Faculty of Graduate Studies for Master's and doctoral programs in the province. The University is home to more than 20 research centres and institutes, and generates $70 million annually in grants and contracts. The Faculty of Nursing is the sole provider of the four-year undergraduate degree in nursing and the only provider of graduate nursing education in the province.

Currently, the Faculty of Nursing offers on a rotating basis, a three credit hour graduate-level course on recent advances in cancer nursing research (Cancer Nursing Research 49.716). The recent funding provided by the CHSRF Chair Award Program, however, will offer significant new infrastructure support for oncology nursing within the Master's of Nursing Program in the Faculty of Nursing. The existing Master's of Nursing Program has the flexibility to accommodate a focus on oncology nursing through existing courses (49.720 Human Response to Illness and two community health nursing courses, 49.717 and 49.718) and an existing partnership with the University of Minnesota. Two students have already completed the specially designed program between the Faculty of Nursing and the University of Minnesota. Funding support is now available for students to attend one term at the University of Minnesota for their clinical major in cancer care. The lessons learned from these two individually designed programs will be extremely useful in deciding on the program options for master's students and in determining what supports will be required by future students. Furthermore, with appropriate guidance and planning, students could complete the master's and doctoral degrees within five years.

The successful implementation of this program initiative will allow the Faculty of Nursing to provide a high quality Ph.D. program in nursing with specialization in Cancer Control which can build on existing strengths within the University community. These strengths include members of an academically strong and active staff complement in the Faculty of Nursing's Cancer Nursing Research Group who can provide expertise through research assistantships to Ph.D. students, which in turn can enhance the research activities among faculty members. The partnership between the Faculty of Nursing and the Department of Community Health Sciences serves to extend doctoral programs offered at the University of Manitoba by promising to provide a concentrated Ph.D. program in nursing that will uniquely train students to become experts in not only knowledge generation (offered in other doctoral programs), but also in knowledge synthesis, translation, dissemination, and implementation within the realities of clinical practice. Moreover, the specialized training in Cancer Control at the Ph.D. level, with extensive course work on research methods and critical appraisals is not offered anywhere across Canada at this time.

IV. How the program enhances co-operation among Manitoba's universities

The Faculty of Nursing offers the Bachelor of Nursing degree at numerous sites across the

province including Winnipeg (Fort Garry), Norway House, and Brandon. The Bachelor of Nursing program is also offered jointly with Red River College in Winnipeg and Keewatin Community College in The Pas and Thompson. Furthermore, the Fort Garry site offers the Baccalaureate Program for Registered Nurses, which allows diploma educated nurses to obtain a Bachelor of Nursing degree. Only the Fort Garry site offers the Master of Nursing Program.

As a result of the various site partnerships with the University of Manitoba, the current infrastructure in nursing education in the province can serve as a positive force that promotes in several ways a unified philosophy and training in evidence-based nursing practice. First, each of the sites will contribute to the educational experiences of students by identifying potential baccalaureate students who are qualified and interested in pursuing additional training in evidence-based practice in cancer care, palliative care, or cancer prevention. Second, as a result of the working relationships between the Fort Garry site and rural sites, such as in Brandon, affiliated faculty can benefit from linkage and exchange activities to become instrumental in developing other evidence-based practice programs in nursing. For instance, these affiliations can serve to strengthen the skill and interest of nursing faculty across the various sites to offer evidence-based practice concepts and strategies to undergraduate nursing students across Manitoba. Third, the affiliated sites can serve as a vehicle that fosters a strong network of collegial relationships and research-based initiatives that focus on evidence-based nursing practice. Fourth, these strategic partnerships can aid in the transmission of responsive ideas to evidence-based nursing issues that arise from both within and outside the network of nursing education sites in Manitoba. Without these partnerships, evidence-based practice initiatives in nursing would likely occur in isolation from one another across the various nursing education sites in Manitoba.

V. Enhancement of the Reputation of the University of Manitoba

The proposed Ph.D. Program will clearly further the reputation of the University of Manitoba in national arenas. Building on the ten year vision of the Chair Award Program to develop evidence-based nursing practice in Cancer Control, it will be widely acknowledged that the proposed Ph.D. program will reflect the responsive and relevant nature of advanced practice nurses in its overall concept and design. The Ph.D. program in nursing offered at the University of Manitoba will be respected in Canada as a highly sought doctoral program that focuses on reality-based matters in Cancer Control, in terms of clinical practice problems for practicing colleagues who will inform students' research projects. The University of Manitoba PhD Program in Cancer Control will be recognized as one where graduate students can not only seek advice from their educational and research advisors, but also gain from the clinical expertise and experience of practicing colleagues. As such, the proposed program will better allow students to respond to concerns from an array of individuals, including academics and colleagues in clinical practice. This approach moves from a traditional hierarchy of mentorship to one that is more lateral, where students are educated in an environment that fosters collegiality among all dimensions of educational preparation (i.e., administration, research, clinical practice, and education). The reputation of the University of Manitoba is expected to be further enhanced by students in the proposed doctoral program who will continue to obtain success in prestigious national fellowship competitions to support full-time Ph.D. studies and who are graduating with strong publication records.

As was discussed, Ph.D. programs in nursing of this sort are lacking at Canadian universities. The provision of an advanced post-graduate program at our University will likely be

acknowledged through increased enrollment of graduate students, recruitment of students from across Canada, and provision of support from national granting bodies. This type of program is unique in that it provides a direct linkage between research, practice, and policy-making in Cancer Control. It is anticipated that programs such as this, that are directly responsive to clinical practice needs, can enhance the receptivity of health care professionals toward research endeavours that are relevant and timely.

3. Specifics

I. Description of the program

Ph.D. students will be required to:

- conduct original research,
- synthesize and state the relevance of their research in a thesis, and
- demonstrate a contribution to the logic and evidence-based practice of cancer nursing in terms of dissemination and utilization of research-based evidence

Prior to their admission to the Ph.D. program, students will be required to specify their area of research interest and to name their intended advisor. An Advisory Committee will be established as soon as possible after the student's admission.

a. Admission Requirements

To qualify for admission to the Ph.D. Program, an applicant must meet the University of Manitoba Graduate Studies general regulations and must have:

1. High academic standing in previous university work
2. A Master's degree in nursing or a health-related discipline. The degree must be thesis-based, although evidence of an extensive publication and research background as an alternative to a thesis is acceptable, and
3. An area of research interest in palliative care, cancer care, or cancer prevention which is supported by a Faculty of Nursing or a Department of Community Health Sciences advisor.

All applications will be received at the Faculty of Nursing. The applicants will submit only one application form, and forward only one set of transcripts, letters of reference, etc. Rather than designing de novo an application form, the admission procedures will require submission of the current Department of Community Health Sciences Ph.D. application form, with appropriate changes to reflect the joint administration and sponsorship. Applications will include letters of recommendation, including one from the student's intended advisor at the Faculty of Nursing or the Department of Community Health Sciences that the applicant has demonstrated suitability and preparedness for Ph.D. studies. Students who are nearing completion of a Master's program may also be admitted to the Ph.D. program upon the recommendation to the Faculty of Graduate Studies by the student's major department. The course work completed in the Master's program will normally serve as pre-requisite criteria (or equivalent) for admission into the Ph.D. program. All prospective students would be required to meet the Faculty of Graduate Studies language requirements prior to admission.

Pre- or Co-Required Courses or Equivalent (15 credits)[1]

49.708 Special Topics in Nursing Research II or equivalent (3 credits)
93.752 Principles of Epidemiology I (3 credits)
93.747 Biostatistics I (3 credits)
93.732 Organization and Financing of the Canadian Health Care System (3 credits)

and

49.722 Quantitative Research Methods in Nursing (3 credits)
or
49.721 Qualitative Research Methods in Nursing (3 credits)
or
3 additional credits in research methods at the 700 level

See footnote[1]

For Out-of-Province Students: Where a meeting between the student and the intended advisor is impractical because the student is not or cannot reasonably be expected to be at the University of Manitoba for a meeting, the student and the advisor may communicate by telephone and/or video-conferencing and email and/or regular post (and/or courier) to define the topic and develop the detailed program of study. The student's Advisory Committee will be constituted as soon as possible after the student's admission.

Selection Committee

Applicants to the PhD Program in Cancer Control will be reviewed by the Graduate Studies Committees of both the Faculty of Nursing and the Department of Community Health Sciences, and must be acceptable to both academic units before admission. All applications will be assessed applying a usual standard of a minimum grade point average of 3.50 in the 15 credit hour pre-requisite (or equivalent) course work, and evidence of scholarly ability (e.g., publications and other written works). Applicants will be assessed on an individual basis to ensure they are qualified to undertake the program which they have planned. For example, students planning to undertake Ph.D. studies in Cancer Control will be expected to have the appropriate scientific and nursing or health-related discipline background. In making admission decisions, The Faculty of Nursing and the Department of Community Health Sciences may also consider such things as the availability of facilities and financial assistance. If acceptance is recommended by the Graduate Studies Committees of both academic units, a letter recommending acceptance into the Program will be sent to Faculty of Graduate Studies.

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[1] It is our expectation that students will have met all of the pre-requisite courses prior to admission. However, if a highly qualified applicant does not have all of these courses, consideration would be given to admit them. Such a student would then take the pre- requisite course(s) concurrently with the required courses in the program (as "OS" courses).

Student's Advisor

On admission, the advisor named by each Ph.D. student will be formally appointed by the Associate Dean of the Faculty of Nursing. The duties of the advisor will be to advise the student on the program and courses, direct research, and supervise thesis work. The advisor must be a member of the Faculty of Graduate Studies, be active in research, and hold a Ph.D. or equivalent. Any exceptions or special circumstances must be approved the Dean of the Faculty of Graduate Studies. It is the responsibility of the Associate Dean of the Faculty of Nursing and/or the head of the Department of Community Health Sciences to determine whether faculty members meet these criteria, and to report on equivalency as necessary to the Dean of the Faculty of Graduate Studies.

Program of Study

As soon as possible after a student has been accepted, the student's program of study, which includes information about the minimum time for completion of the degree, course work to be taken, and the research area in which the thesis will be done, should be forwarded to the Faculty of Graduate Studies. The program of study and any changes will be approved by the student's advisor, advisory committee, and the Associate Dean of the Faculty of Nursing. The approval of the student's advisor and the Associate Dean of the Faculty of Nursing is sufficient for registration.

Advisory Committee

The Associate Dean of the Faculty of Nursing will be responsible for the establishment of an advisory committee for each Ph.D. student. The advisory committee will consist of at least three members of the Faculty of Graduate Studies. The chair and the internal member must represent the Faculty of Nursing and the Department of Community Health Sciences (e.g., the chair is a member of the Faculty of Nursing and the internal member is a faculty member of the Department of Community Health Sciences or vice versa). The external member must be from a department other than the Faculty of Nursing or the Department of Community Health Sciences. The membership of the committee, including the advisor, as well as any changes made to it, must be approved by the Dean of the Faculty of Graduate Studies. The advisor is the chair of the advisory committee.

The advisory committee will approve the program of study and thesis proposal, and exercise general supervision over the student's work throughout the Ph.D. Program. The committee should meet with the student periodically (at least once a year) to review the student's progress and to report this progress to the Faculty of Graduate Studies (through the Associate Dean of the Faculty of Nursing). If there is evidence of unsatisfactory performance, the student may be required to withdraw.

In addition to the academic advisory committee, each student will have a decision-making partner in the practice field of the student's research. The role of the decision-making partner will be to critically examine the student's research topic and comment on its applicability to practice, and to facilitate the student's access to potential research subjects in the practice setting. This individual will provide valuable information and guidance for the student in terms of access and feasibility issues with respect to the actual conduct of the student's research. The decision-making partner will be a non voting member of the student's committee.

b. Course Requirements

Required Courses (21 credits)

Core Courses for All Students

49.716 Cancer Nursing Research (3 credits)
49.7XX Philosophy of Nursing Science (3 credits)
49.711 Readings in Selected Topics I (3 credits)
93.748 Biostatistics II (3 credits)
93.756 Epidemiology of Cancer (3 credits)
and
27.603 Organization Theory and Behaviour (3 credits)
or
27.744 Doctoral Seminar in Organizational Theory (3 credits)

In addition, students will take one of the following research methods courses depending on the focus of their thesis research:

93.728 Advanced Biostatistics (3 credits) or
93.736 Clinical Trials (3 credits) or
49.721 Qualitative Research Methods in Nursing or equivalent (3 credits)[2]

Through the program between the Faculty of Nursing and the Department of Community Health Sciences, students are annually able to take seven different courses related to cancer nursing research, philosophy of nursing science, biostatistics, epidemiology of cancer, and a selected readings course. Students will take an additional course on organizational theory or change through the Asper School of Business. The selection of the course will be made based on the specific learning needs of the student and available offerings.

Linkage between the objectives and required courses in the Ph.D. Program in Cancer Control

To meet the objectives of the Ph.D. Program, the **Cancer Nursing Research** course will provide students with an up-to-date knowledge on recent advances in cancer nursing research. As a result, doctoral students will appreciate, comprehend, and eventually participate in the promotion of nursing practice that is based on a state-of-the science in cancer care, palliative care, and cancer prevention. The course **Philosophy of Nursing Science** will provide students with the theoretical basis underpinning scientific models including nursing models. In addition, this course will provide the historical context for the

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[2] Students pursuing a qualitative thesis could take 49.721 (if not taken as a pre or co-requisite) or an alternative qualitative research methods course. The Faculty of Nursing has an academic link with the University of Tennessee Memphis. Students would have access to Qualitative Research Methods in Nursing taught by Dr. Cynthia Russell, Associate Professor at UTM and Adjunct Professor, Faculty of Nursing at the University of Manitoba. In addition, the International Institute for Qualitative Methodology at the University of Alberta offers the course - The Principles of Qualitative Inquiry which would be appropriate for consideration.

development of cancer nursing research. Depending on a student's needs and area(s) of concentration, an appropriate focus will be developed in the **Readings in Selected Topics I** course. The concentrated training offered in the courses, **Biostatistics II** and **Advanced Biostatistics**, promises to promote the acquisition of expertise not only in data analysis, but also specific evidence-based practice skills in the critical appraisal of evidence. The **Clinical Trials** course will promote competencies in students in relation to the conduct of systematic reviews on relevant clinical topics in Cancer Control commensurate with evidence-based practice principles. **Qualitative Research Methods in Nursing** (or another advanced qualitative research methods course) will be offered to students as an alternate to either Advanced Biostatistics or Clinical Trials to guide them in the appropriate use of qualitative inquiry and methods, depending on their research interest and research methodology needs. The **Epidemiology of Cancer** course will promote new competencies in students that will allow them to appreciate an expanded definition of the patient that includes population health in the cancer field. This course focuses on the etiology of cancer, medical interventions, and potential for prevention. Either one of the courses on **Organizational Theory** will offer students a complex grounding in understanding organizational systems to facilitate the dissemination of best practice innovations and the uptake of research findings in the health care workplace.

In addition to the Ph.D. program course requirements, students will be expected to attend workshops and seminars sponsored by the Faculty of Nursing on evidence-based practice to encourage their academic and professional growth in this area. Student academic progress will be reported annually to the Faculty of Graduate Studies. A minimum Grade Point Average of 3.0, with no grade below C+ must be maintained in order to continue in the program.

c., Evaluation Procedures

Students' course work will be evaluated through examinations, papers, and other methods appropriate to the course content and focus such as seminar presentations. The requirement for the course 49.711 Readings in Selected Topics will include preparation of a review article for submission for publication.

Students enrolled in the Ph.D. Program in the field of nursing will evaluate courses in the same format as other students at the Faculty of Nursing, and in accordance with University Policy and Procedures. The SEEQ Evaluations are done for all Faculty of Nursing and Department of Community Health Sciences courses (with a minimum number of five students per class) each term, and results are published according to University procedures. In all cases, students are and will continue to be encouraged to use the Additional Comments section of the form to expand upon their thoughts.

In addition to SEEQ Evaluations, the Faculty of Nursing and the Department of Community Health Sciences may administer other internal evaluations to assist in determining, for example, the quality of courses and instructional activities that are offered. An annual review of the Ph.D. Program by a committee consisting of the Associate Dean of Graduate Studies and the Director of Graduate Studies of Community Health Sciences, and other members from the respective Graduate Studies Committees will be conducted. After 3 years, a more in-depth evaluation will be conducted involving an external reviewer to ensure the program is meeting the stated objectives. The evaluation process will be coordinated with the Faculty of Graduate Studies' own review process to avoid duplication.

d. Candidacy Examination

As part of their research requirements and upon completion of course work, Ph.D. students will be required to complete a candidacy examination. Normally the examination will be taken within the first two years of full time registration after admission to the Ph.D. program.

The nature of the candidacy examination procedure will be set forth in an agreement between the student and the advisory committee members. The agreement will include candidacy examination questions that have been designed and approved by the advisory committee members for the student's particular program of study. The questions will focus with equal attention to theory, method, and policy in relation to the student's research topic. The purpose of this format for candidacy examination is to determine the student's ability to integrate and apply knowledge in these three areas that relate to the student's specific research topic.

Following the student's completion of course work, the candidacy examination questions will be administered. The student will address the examination questions in three separate 20-25 page papers in written response format. As discussed with and agreed upon by individual advisory committee members, some written papers may be prepared in a format suitable for publication. The deadline for the student's completion of three candidacy examination questions will be agreed upon between the student and the advisory committee members in the candidacy examination agreement. The student's written responses to the questions will be presented to each member of the committee. However, each advisory committee member will be responsible for examining the student in only one area, either theory, method, or policy as designed and agreed upon by the respective committee members. The deadline for feedback by the committee members on the candidacy examination papers will be one month. Once each committee member has had the opportunity to review the respective examination papers, they will respond with written comments to the chair of the advisory committee and their evaluation of the paper on a pass/fail basis. The advisory committee will assist the chair in ensuring that the candidacy examination has satisfied appropriate requirements for each student and the general requirements of the Faculty of Graduate Studies. The student must pass all sections of the examination.

The Dean of the Faculty of Graduate Studies will be informed whether the candidate has passed or failed the candidacy examination (in the "Report on Ph.D. Candidacy Examination" form). No student will sit for these examinations more than twice. Any student who fails the candidacy examination twice will be required to withdraw from the Faculty of Graduate Studies. On successful completion of these examinations, the student will be considered a candidate for the Ph.D. degree.

e. Thesis Procedures and Regulations

In accordance with the general regulations of the Faculty of Graduate Studies, the student must be able to demonstrate competence in being able to complete a research project and present the findings.

Thesis proposal

In accordance with the Faculty of Graduate Studies Ph.D. thesis regulations, the proposed thesis research must be approved by the advisory committee and by the appropriate research ethics review committee before work has begun on the research project.

The student's thesis proposal will be prepared in the form of a grant proposal suitable for submission to one of the granting agencies (e.g., CIHR, SSHRC, NHRDP, NCIC). The thesis proposal will have a 10-page limit and should include the following sections, with modifications as necessary to meet individual student and/or research requirements:

1. Statement on the nature of the study, including research objectives;
2. Review and analysis of the related literature; and
3. Outline of methods and procedures to be used.

This format for the student's thesis proposal has been useful to students and faculty in the Department of Community Health Sciences in that it ensures "brevity, relevance, and cogency, at the same time getting the student acculturated to the grantsman(woman)ship game early" (T. Kue Young, personal communication, April 16, 2001).

The procedures for the approval of the thesis proposal will follow those described in the Faculty of Graduate Studies Thesis Regulations: Ph.D. The advisory committee will assist the advisor in ensuring that the approval of thesis proposal has satisfied appropriate requirements for each student and the general requirements of the Faculty of Graduate Studies. Once the proposed thesis research is approved by the thesis advisory committee, the recommendation for the thesis research to proceed will be reported to the Faculty of Graduate Studies on the "Ph.D. Student Progress" form.

Ph.D. Thesis and oral examination

The thesis must be written in standard style acknowledged by the Faculty of Graduate Studies and approved by each student's thesis committee. The thesis should be lucid and well written, and be reasonably free from typographical and other errors. Additional details respecting submission of the thesis should follow the *Thesis Guidelines* booklet provided by the Faculty of Graduate Studies.

The general regulations of the Faculty of Graduate Studies will govern thesis preparation and the final examination for the Ph.D. degree. A Thesis Examination Committee will be appointed as per the Faculty of Graduate Studies guidelines. This committee will typically include all members of the student's advisory committee, plus a member external to the University of Manitoba.

During their defense, candidates will be expected to clearly demonstrate their competence to complete a research project and present its findings. The thesis must constitute a distinct contribution to knowledge in the field of Cancer Control, and the material must be of sufficient merit to be acceptable for publication.

f. Transfer of Courses

Advance credit for courses completed prior to admission to the Ph.D. program will be considered on an individual basis, following the guidelines of the Faculty of Graduate Studies.

g. Residence Requirement

Consistent with the policy in the Faculty of Graduate Studies, the residency requirement will be two academic terms.

3. Specifics

II. Credential to be Granted

The proposed credential is a Ph.D. degree in the fields of nursing and community health sciences. This degree will build upon the Cancer Control research focus offered in master's degree in nursing or health-related disciplines at various university settings, including the University of Manitoba master's program.

4. Projections and implementation (NOTE: Based on 2001-2002 course registration guide schedule)

I. Program listing

Year I

Term 1 (9 credits)

49.7XX Philosophy of Nursing Science (3 credits)
27.603 Organizational Theory and Behaviour (3 credits) or
27.744 Doctoral Seminar in Organizational Theory (3 credits)
49.716 Cancer Nursing Research (3 credits)

Term 2 (9 credits)

93.748 Biostatistics II (3 credits)
93.756 Epidemiology of Cancer (3 credits)
49.711 Readings in Selected Topics I (3 credits)

Summer
Preparation of Proposal for Candidacy Examination requirements

Year 2 (3 credits)

Term 1
(3 credits)

93.728 Advanced Biostatistics (3 credits) or (Clinical Trials or Qualitative Research Methods in term 2 below)

Preparation of Proposal for Candidacy Examination requirements

Term 2

93.736 Clinical Trials (3 credits) or
49.721 Qualitative Research Methods in Nursing (3 credits)
Completion of candidacy examination requirements
Proposal development

Year 3
Thesis work

II. Anticipated Enrolment

It is estimated that initially 2 or 3 students will be admitted to the Ph.D. program from the Master of Nursing Program at the University of Manitoba on an annual basis. This number of student admissions is expected to increase over time as the Ph.D. program becomes established. We will be admitting students from other universities as well. It is expected that with a growing national recognition of the program, an additional 2 to 3 students are expected to be admitted as out-of-province students. The anticipated stationary state enrollment in the Ph.D. program would be approximately 12 students.

III. Distance Education

Potential for offering courses or receiving courses through distance delivery is supported by the technological capabilities of the Helen Glass Centre for Nursing.

IV. Implementation Schedule

The proposed Ph.D. program is estimated to be fully operational by September 2004, as only two additional courses require development including one Readings course. The resources provided by the new Chair Award will facilitate course development. All faculty members are in place. It is expected that the addition of two to three students per year in one three credit course can be managed within the resources of the Asper School of Business.

Table 1. Status of evidence-based practice in cancer nursing across Canada

City/Province/ Cancer Agency	Use of Evidence	Support for Evidence-Based Practice	Comments
Vancouver, British Columbia Vancouver Cancer Centre	-clinical practice guidelines are used and based on best available research evidence. -shares practice "experiences" with other centres in the province.	- pro-active in terms of supporting evidence-based practice.	-numerous staff are members of the university faculty. - a "clinically minded academic group".
Saskatoon, Saskatchewan Saskatoon Cancer Centre	-no policies based on best or current research evidence. -uses an email support network with other nurses to share experiences in practice.	-very supportive of using best evidence in practice.	-has found it difficult to gain support for developing evidence-based guidelines and protocols.
Regina, Saskatchewan Allan Blair Cancer Centre	-no best or current clinical practice guidelines used in practice. -uses email to ask other clinics what they do in practice.	-identifies the need for and supports evidence-based practice.	
Winnipeg, Manitoba Health Sciences Centre	-uses ONS clinical practice guidelines which are found to be based on the best evidence.	-states that there is a need to develop Canadian best evidence guidelines.	-guidelines are used to direct practice and orientate new employees.
Ottawa, Ontario Ottawa Regional Cancer Centre	-no best or current clinical practice guidelines used to direct practice. -decision-making is mainly based on experience.	-very supportive of developing evidence-based practice.	-policies and procedures revised three years ago based on the best evidence at that time.
St.John's, Newfoundland St. John Health Science Cancer Centre	-utilizes clinical practice guidelines and protocols that are research based. -all policies must be based on research prior to implementation.	-sees centre as practicing with best evidence policies and guidelines.	-has an interdisciplinary committee that develops research based protocols.

Table 2. Number of registered nurses admitted and enrolled in Canadian doctoral programs in nursing between January and December 1998

University	Total admissions	Total enrollments
QUEBEC Montreal McGill Sherbrooke	 3 2 0	 20 8 3
ONTARIO McMaster Toronto	 7 7	 14 29
ALBERTA Alberta Calgary	 8 1	 39 2
BRITISH COLUMBIA British Columbia Victoria	 12 2	 26 5
TOTAL	**42**	**146**

Table 3: List of English-Language Ph.D. programs in Canada

University	Faculty	Ph.D. "Designation"	Area of Specialization
McGill University	School of Nursing	Ph.D. in nursing	General
University of Toronto	Nursing	Ph.D in nursing science	·Nursing Science of Healthy Individuals, Families and Communities ·Nursing Science of Individuals and Families Experiencing Acute and Chronic Illness ·Science of Nursing Administration
McMaster University	School of Nursing	Ph.D. in Community Health Sciences	Chronic Illness and Chronic Care, Cultural and Ethnic Issues, Delivery and Use of Health Care Services, Education, Gerontology, Health Promotion and Disease Prevention, Neonatology and Pediatrics, Nursing Practice and Work life
University of British Columbia	School of Nursing	Ph.D. in nursing	Open

University	Faculty	Ph.D. "Designation"	Area of Specialization
University of Victoria	School of Nursing	Ph.D. by special arrangement	Open
University of Alberta	Faculty of Nursing	Ph.D. in nursing	Open
University of Calgary	Faculty of Nursing	Ph.D. in nursing	Open

B. Human Resources

1. Faculty Members

The Faculty of Nursing

The compliment of permanent and adjunct Faculty of Nursing members is adequate to provide the proposed Ph.D. Program in Cancer Control. This 'critical mass' of faculty will ensure that there is the presence of appropriate expertise and faculty availability to meet the program's contractual obligations to students.

First, the Faculty of Nursing's Cancer Nursing Research Group has established a strong educational reputation in the field of cancer nursing research. The Group has a modestly sized but academically strong and active staff complement. The areas of study concentration in cancer care will initially involve a potential instruction pool of seven Faculty of Nursing permanent staff. The major advisors will be drawn from this pool (K. Chalmers, L.F. Degner, D. Gregory, T. Hack, M. Lobchuk, S. McClement, and R. Woodgate). The Ph.D. Program will also draw on the expertise of four Ph.D. Adjunct staff members (K. Luker, J. Post-White, C. Russell and J. Sloan) who have research interests in Cancer Control. With their background expertise in either quantitative or qualitative research methodologies and their respective interests in either cancer care, palliative care, or cancer prevention, all of these adjunct faculty members are well positioned to serve as members of Ph.D. student advisory committees. Third, depending on the student's research interest and research methodology needs, the expertise of other permanent members of the Faculty of Nursing who have advising capacity will be available to the student to serve as members of Ph.D. student advisory committees (see Appendix A). For instance, B. Naimark, B. Diehl-Jones, A. Gupton, and M. Heaman have respective expertise in either human physiology, research methods in nursing, science and theory in nursing, and epidemiology.

The Department of Community Health Sciences

The Department of Community Health Sciences has established a strong educational reputation in such fields as biostatistics and population health. The areas of study concentration in research methods and biostatistics, clinical trials, and epidemiology will initially involve a core instruction pool of eight permanent Ph.D. prepared faculty members with the Department of Community Health Sciences (H. Chochinov, T. Hassard, E. Kliewer, V. Menec, M. Moffat, J. O'Neil, S. Taback and D. Turner). In addition, there are several Adjunct professors in the Department such as Dr. K.T. Young who could participate on committees. The expertise of these members lies respectively in either quantitative research methodologies, biostatistics, epidemiology, and psychosocial aspects of dealing with cancer

across the spectrum of cancer prevention, cancer care, and/or palliative care (see Appendix B).

As described above, the proposed Ph.D. Program between the Faculty of Nursing and the Department of Community Health Sciences demonstrates the potential to meet its obligation to students, and hence has the appropriate critical mass to successfully implement the proposed Ph.D. program.

Advising Capacity

The Faculty of Nursing

Current enrollment of graduate students within the Faculty of Nursing, Master of Nursing Program numbers approximately 80. The Faculty admits approximately 25 students per year (8 are admitted to the Advanced Practice Program and 17 are admitted to the other majors in the Program). The advisor to student ratio of approximately 1-2 students per faculty member exists.

Department of Community Health Sciences

Current enrollment of graduate students within the Department of Community Health Sciences numbers 84. The Department admits approximately 15 students per year; about 5 to 10 of these students have a nursing background. The advisor to student ratio of approximately 2 to 3 students per faculty member exists. The additional 2 to 3 students could easily be absorbed into the existing courses. There will be little or no additional advisement resources required.

Experience in Advanced Work

The Faculty of Nursing

The Faculty of Nursing has 12 tenured and 9 tenure track faculty members. Several faculty members in the Faculty of Nursing have supervised Ph.D. students in the Individual Interdisciplinary Doctoral Program (IIP) and have served as external members of Ph.D. committees and as external examiners. The workload would remain approximately the same with the introduction of this new program.

Department of Community Health Sciences

The Department of Community Health Sciences has 23 tenured and 6 tenure-track faculty members. All of the faculty members in the Department of Community Health Sciences have served either as supervisors, internal or external committee members, or as external examiners of Ph.D. committees.

Curriculum Vitae

The curriculum vitae for respective faculty members in the Faculty of Nursing and the Department of Community Health Sciences are attached in Appendix C.

Teaching Loads

The Faculty of Nursing

Dr. Lesley Degner, Dr. Thomas Hack, and Dr. Michelle Lobchuk have 100% protected time from the CHRSF Award to devote to Ph.D. Program and related research development initiatives. Tenured faculty in the Faculty of Nursing teach 12-15 credit hours during the academic year plus supervise graduate students. Tenure track faculty have *protected time* during the first two years of their appointments; they are required to teach only nine credit hours.

The Department of Community Health Sciences

The teaching loads for tenured and non-tenured faculty in the Department of Community Health Sciences tend to vary between 3 to 9 credit hours. The teaching loads are dependent on the faculty members' clinical commitments, expertise to teach, and demand to teach course topics.

2. Support Staff

No additional support staff are anticipated as a result of the introduction of the proposed Ph.D. program. The Graduate Program in the Faculty of Nursing has a full-time Program Assistant to support the current Master's Program. There is also a full-time executive assistant to the Program of the Chair. It is anticipated that these two persons will be sufficient to provide the needed support for the program.

3. Other Human Resources

In addition to Faculty supports for the Ph.D. program, other resources have been made available through the acquisition of the Chair Award. The Faculty of Nursing has committed one full time position to support the research program of the Chair. Dr. Thomas Hack is the research scientist in this position. In addition, a full-time assistant research scientist position has been funded through the monies from the Chair. Dr. Michelle Lobchuk holds this position. Both of these individuals will participate in the education and mentoring activities of the Ph.D. program. Furthermore, the Manitoba Nursing Research Institute (MNRI) is based within the Helen Glass Centre for Nursing. The MNRI serves faculty, graduate students, and community nurses with consultation, statistical advice, computer workshops, grant administration and other supports. The services of the MNRI will be available to students in the Ph.D. program. An additional support is the Winnipeg Regional Health Authority (WRHA). The WRHA currently provides support to the Master's program through the provision of field placements for students for clinical and policy related learning. The WRHA will continue to provide learning opportunities as needed to students in the Ph.D. program. In addition, the WRHA is providing $51,000 in support of the initial period (first three years) of Dr. Degner's Chair.

4. Participation of External Members

The Faculty of Nursing has developed and will draw upon extensive linkages with a variety of organizations, such as the WRHA, CancerCare Manitoba, Canadian Cancer Society, National Cancer Institute of Canada, the Centre for Behavioural Research and

Program Evaluation, and the Sociobehavioural Cancer Research Network.

C. Physical Resources

1. Space

The Faculty of Nursing is housed in the new state-of-the-art Helen Glass Centre for Nursing which officially opened on April 18, 2000. The building is 70,000 square feet on four floors with a large central atrium. The proposed Program has been shaped to take advantage of these new facilities, which include: three video-conferencing classrooms, 20 clinic rooms with video recording capabilities for teaching and research, and a Campus Health Resource Centre to serve the public. The clinic rooms will support our research program in cancer patient-health professional communication; and the videoconferencing facilities will support our proposed educational initiatives. Specific space has been allocated to house the program on the third floor of the building. This space includes offices for the executive assistant, assistant research scientist, and research assistant. In addition, the required courses offered in the Department of Community Health Sciences will be scheduled in available time slots in seminar rooms available at the University of Manitoba, Bannatyne campus site. A letter of support concerning space resources for this program is found in Appendix D.

2. Equipment

No extraordinary requirements for instructional equipment are anticipated. Use of the existing Faculty of Nursing and Department of Community Health Science slide projectors, overhead projectors, and computer projector is planned, and this can be supplement by University equipment if required. A statement from the Executive Director of Information Services and Technology is included in Appendix E.

3. Computers

The Faculty of Nursing is well equipped with two computer laboratories with 24 stations each for student use. These facilities are supported by the services of a senior systems analyst and a senior computer technician who are also skilled in the application of web based technology. The new building has a large area for graduate students (908 square feet), including separate carrels equipped with computer outlets, meeting space and library resources.

4. Library

A statement from the Director of Libraries Administration is included in Appendix F. The Faculty of Nursing is committed itself to the immediate provision of the funds necessary to support the acquisition of needed library materials.

D. Financial Resources

1. Delivery Costs

No immediate or projected additional costs are anticipated in running the program. From the CHSRF Chair Award held at the Faculty of Nursing, three positions have 100% protected time (Dr. L. Degner, Dr. T. Hack, and Dr. M. Lobchuk) to devote to the Ph.D. Program. Therefore, the additional student load can simply be absorbed into the existing teaching, research, and extension activities of the Faculty of Nursing and the Department of Community Health Sciences. The Ph.D. students may replace some Master's level students (approximately 3 or 4 Master's places).

The proposed program can be implemented with limited additional cost to the University at large, and without any reduction in current Ph.D. opportunities within existing programs.

2. Student Support

Both the Manitoba Nursing Research Institute and the Faculty of Graduate Studies, Awards Officer have compiled databases of funding or award opportunities to assist in graduate funding for students. First year Ph.D. fees ($4200/year) will be funded by the Chair Award Program or two Murphy Foundation Scholarships ($5000/year). The National Cancer Institute of Canada, the CIHR, the Canadian Cancer Society, the Social Sciences and Humanities Research Council, and the University of Manitoba 'top up' awards will be important sources of funding. The Faculty of Nursing will encourage faculty members to generate support for Ph.D. students through the usual internal sources of support such as graduate student research scholarships, and teaching and research assistantships. Additional research stipends will be available through the Chair Award and SCRN funding.

3. Identification of New Financial Resources

The statement of financial resources to support the program is attached in Appendix G.

E. Supporting Documents

A letter of support from the Director of Student Records is found in Appendix H.

Letters of support from Deans, Directors and Department Heads from other units are found in Appendix I.

Letters of support from other interested parties are found in Appendix J.

F. Additional Materials

The course outline for the sole new course, 49.7XX Philosophy of Nursing Science, was developed in consultation with the Department of Philosophy. The course outline is found in Appendix K.

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October 27, 2003

Report of the Senate Planning and Priorities Committee on the proposal of the Faculty of Graduate Studies to introduce a Ph.D. program in Cancer Control

Preamble

1. The Terms of Reference of the Senate Planning and Priorities Committee (SPPC) are found in section 8.32 of the *Senate Handbook*. SPPC is charged with making recommendations to Senate regarding proposed academic programs.

2. The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies has the responsibility of reviewing new graduate programs and makes recommendations to Faculty of Graduate Studies Council.

3. The Faculty of Graduate Studies proposes to introduce a Ph.D. program in Cancer Control to be offered by the Faculty of Nursing and the Department of Community Health Sciences in the Faculty of Medicine.

Observations

1. Cancer control aims to prevent cancer, cure cancer, and increase survival and quality of life for those who develop cancer by converting the knowledge gained through research, surveillance and outcome evaluation into strategies and actions (Cancer Strategy for Cancer Control, 2001). The proposed program will address the pressing need in Canada for clinical and community health scientists in the broad field of Cancer Control.

2. It has been noted that the health sector in Canada has not undertaken sufficient organized research and development in the area of Cancer Control, especially in being able to gather and share information about outcomes, and about which treatments work best and are most successful. While there are 9 doctoral programs in Nursing across Canada, there are no comparable programs in place at the present time that deal directly with issues relating to Cancer Control.

3. The Ph.D. program consists of 21 credit hours of course work, a candidacy examination and a thesis. Students will be required to conduct original research, synthesize and state the relevance of their research in a thesis and demonstrate a contribution to the logic and evidence-based practice of cancer nursing in terms of dissemination and utilization of research-based evidence.

4. Initially it is expected that two to three students will be admitted to the program from the Master of Nursing program annually. As the program becomes more well-known nationally, it is expected that an additional two or three students would be admitted from out-of-province. The steady state enrolment is envisioned at approximately twelve students.

5. The Ph.D. in Cancer Control is an initiative of the Canadian Health Services Research Foundation and a CIHR Chair award to the Faculty of Nursing. As such, development costs, some student support, and the required additional library resources will be covered without tapping into operating funds. While the Chair award is helpful to the development of the program, there is capacity within the Faculty of Nursing and the Department of Community Health Sciences to sustain the program, independently of the Chair. Currently, 6 faculty members are available to act as qualified supervisors of graduate students in the proposed program, and the Chair is actively engaged in develop mentoring skill with supervisors.

6. The Faculty of Nursing has chosen, at this time, to introduce a targeted Ph.D. program, rather than a general one in Nursing Science, because of existing Faculty strength in this area, and the research platform to support a Ph.D. program.

7. The Faculty of Nursing is located in the four year old Helen Glass Centre for Nursing, which is one of the most modern teaching and learning facilities on campus. Space has been allocated within the building to house the program and existing equipment and computers will be sufficient to support the program.

8. The addition of any new graduate program has implications for the finite pool of funds available in the University to support graduate students. While the proposal addresses the importance of financial support for graduate students, it also recognizes that existing graduate support funds will be tapped into by students in this program.

9. The current holdings of the library are not adequate to meet the requirements of the program. However, there is a plan in place to procure the needed library material, including direct support for library acquisitions from the Faculty of Nursing.

Recommendation

The Senate Planning and Priorities Committee recommends that Senate approve and recommend that the Board of Governors approve the introduction of a Ph.D. program in Cancer Control [as endorsed by the Faculty of Graduate Studies on May 21, 2003].

Respectfully submitted,

Juris P. Svenne, Acting Chair,
Senate Planning and Priorities Committee

/jml

PROGRAM OVERVIEW SUMMARY

NAME: Bachelor of Allied Health Science - Medical Laboratory Sciences

CREDENTIAL: Under-graduate degree

ACCREDITATION REQUIREMENT: Canadian Medical Association Conjoint Committee.

PROGRAM LENGTH: 30 credits of University 1 plus 24 month diploma, plus 1 year for degree completion (1+2+1)

PROPOSED PROGRAM START DATE: Started at RRC in September 2001
Degree completion to be available 2004

DEPARTMENTS WITHIN INSTITUTIONS HAVING RESPONSIBILITY

University of Manitoba, Faculty of Medicine, School of Medical Rehabilitation
Red River College, Department of Health and Applied Sciences

PROGRAM PRIORITY: HIGH

NEW PROGRAM PROPOSAL: YES

PART-TIME STATUS:
Year 1 (University 1) could be taken on a part-time status.
Degree completion for practicing Registered Medical Laboratory Technologists could be part-time

Once the students enter parts of the program that require clinical placements there may not be enough flexibility in the system to allow for part-time status

CO-OPERATIVE EDUCATION COMPONENT:

There are 3 blocks of clinical education to develop practical skills and assess competency.

Year 2	8 weeks
Year 3	48 weeks
Year 4	10 weeks

ASSESSMENT OF PRIOR LEARNING

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

Prior learning would have to be assessed for a number of reasons:

i) The program is designed to use as many existing courses from RRC and the U of M as possible, to minimize costs for development of the program. Students applying into the program who have taken these existing courses would be granted credit.

ii) Students could also apply to have "like" courses evaluated for credit. This may require that they take challenge exams to ensure critical knowledge is achieved.

iii) A post-Registered Technologist option to allow degree completion for practicing technologists has been identified as part of the program model. Credit would be given for diploma achievement and Advanced Certification achievement. These individuals could also submit continuing education courses for assessment.

DISTANCE DELIVERY OPTIONS

Ideally, flexible delivery systems like distance education would make the program more available and more appealing. With innovative teaching methods being developed for television and computers and access to the Internet so affordable, it is possible to have parts of the program available through distance education. The viability and cost/benefit would have to be determined.

There is a trend however, within educational institutions to expand their roles in this area.

JOINT DELIVERY

The total program would be delivered jointly with the U of M, RRC and the affiliated clinical training sites. Each educational institution would have responsibility for parts of the program.

1. PROGRAM DESCRIPTION

BACHELOR OF ALLIED HEALTH SCIENCES: Medical Laboratory Science

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i. Program objectives:

The 4 year (1+2+1) program will provide the graduate with a solid scientific background for enhanced critical and analytical thinking, broad didactic knowledge in medical sciences, applied technical skills for professional practice and introduction to expanding disciplines in laboratory medicine. This program will produce medical laboratory technologists who are allied health professionals devoted to the scientific application of

technology and who perform and evaluate the laboratory investigations critical to the diagnosis, management and treatment of human disease.

The Registered Medical Laboratory Technologist (RT., MLT.) is a graduate of an accredited education program (accredited by the CMA Conjoint Committee of Accreditation), who has successfully demonstrated competency as outlined in the competency profile of the Canadian Society for Medical Laboratory Sciences (CSMLS) and has passed the national certification examination and who will be required to meet the practice requirements as set out by the College of Medical Laboratory Technologists of Manitoba in order to maintain a license.

The program is designed so that graduates are able to:

1. demonstrate knowledge, understanding and competency in the application of their skills.

2. practice assessment procedures, interpret information and apply problem solving and critical thinking skills to their every day practice.

3. identify their role in the health care system and participate in decision-making processes that relate to their specialty.

4. implement quality practices and perform within safety standards relating to the application and utilization of equipment relative to patient care and diagnosis.

5. understand the ethical, legal and professional responsibilities of their discipline and apply them in practice.

6. demonstrate a commitment to the philosophy of holistic medicine and recognize patients and their families as unique individuals.

7. treat patients with dignity and respect and in doing so accept the role of patient advocate.

8. participate in clinical and basic research.

9. commit to self-evaluation and life-long learning.

10. challenge national certification examinations as set by the Canadian Society for Medical Laboratory Science

ii. Program Specifics

BACHELOR OF ALLIED HEALTH SCIENCES- MEDICAL LABORATORY SCIENCE

The following proposal will provide a new approach to Medical Laboratory Science Training, addressing voids that are recognized in the industry.

Where possible existing courses are identified using course numbers. Equivalent RRC courses could also be substituted. MLSCxxx identifies courses delivered through RRC for the diploma program. New courses developed by the University for the degree portion are identified by 163.xxx.

Pre-requisites: Computer Fundamentals
Co-requisites: CPR/First Aid
Medical Terminology

YEAR 1 – Pre-requisite Year
COMPULSORY COURSES

		CREDIT HRS
002.130L	University Chemistry: Structure and Modeling in Chemistry	3
002.131L	University Chemistry: Chemistry and Chemical Reactivity	3
	or	
002.132L	University Chemistry: An Introduction to Organic Chemistry	
022.132L	Anatomy of the Human Body (H04-N130)	3
022.133L	Physiology of the Human Body (H04-N131)	3
005.100M	Basic Statistical Analysis	3
099.111W	Introduction to University or 3 credit W course	3
071.125L	Biology B	6

plus 6 credits of electives with the following recommended:

016.102L	General Physics 1	3
016.103L	General Physics 2	3

Students would apply to RRC into the Medical Laboratory Science program after the first year.

YEAR 2
COMPULSORY COURSES BACHELOR OF ALLIED HEALTH (MEDICAL LABORATORY SCIENCE)

MLSC101	Human Workplace Relations	3
MLSC102	Laboratory Safety and Risk Management	3
MLSC106(L)	Analytical Techniques	3
MLSC103(L)	Biochemistry I	3
MLSC107	Biochemistry II	3
MLSC109	Immunology	3

MLSC205(L)	Microanatomy	3
MLSC104	Elementary/ Human Biopathology	3
MLSC100(L)	Clinical Microbiology I	3
MLSC204(L)	Clinical Microbiology II	3
MLSC306(L)	Hematology/Hematopathology I	3
MLSC305	Clinical Chemistry I	3
MLSC307(L)	Transfusion Science	3
MLSC308(L)	Histotechnology	3
MLSC105(L)	Phlebotomy/POCT/ pre-analytical processing (clinical experience) GMP, TQM/CQI (length 8 weeks)	3

YEAR 3
COMPULSORY COURSES

MLSC407	Clinical Education in Transfusion Medicine (6 weeks)	3
MLSC403	Advanced Hematology/ Hematopathology	3
MSLC404	Clinical Education in Hematology (11weeks)	6
MSLC400	Advanced Clinical Chemistry	3
MLSC408	Clinical Education in Chemistry (11 weeks)	3
MLSC304	Clinical Microbiology III	3
MLSC405	Clinical Education in Microbiology (11 weeks)	6
MLSC406	Clinical Education in Histology (6 weeks)	3
MLSC402	Quality Management	3

ELECTIVE COURSES(for individuals planning on seeking degree)

060.211L	Microbiology B	3

YEAR 4
DEGREE COMPLETION
COMPULSORY COURSES

060.341	Molecular Biology	3
060.458	Recombinant DNA Technology	3
163.4DUL	Clinical Immunology	3
163.4DV	Clinical Education in Immunology (5 weeks)	3
163.4DY	Management in Laboratory Medicine	3
068.245	Research Methods	3
015.274	Ethics in Biomedicine	3
163.4DX	Seminars in Laboratory Medicine	3

Plus 6 credits of electives

Sample list

163.4DW	Elective Rotation in a Specialty Laboratory (4 weeks)	3
077.120	Introduction to Sociology	6
017.120	Introduction to Psychology	6
047.208	Interpersonal Communication Skills	3
125.302	Introduction to Human Genetics	6

any 3 credit humanities course

Current practicing Technologists would also have the option to complete a degree with one additional year of training. The required courses and elective courses for this program would be slightly modified. (See Section G of Program submission for details) This would allow practicing technologists an option to upgrade and increase their existing knowledge and skills Clinical Education requirements for currently practicing technologists would be optional.

2. ENROLLMENT

i. Initial Enrollment

There is a demand to graduate 25-30 medical laboratory science students at the end of the diploma program to address ongoing needs within the province. Based on standard attrition rates at educational institutions, it would be necessary to enroll 30-40 to meet the graduate requirements (See Appendix 1). . It is expected that the optional degree year will be attractive to many diploma graduates as a Bachelor of Health Science, provides both the scientific knowledge, and the necessary skills to work in the expanding areas of molecular biology, immunology etc. A degree is also a requirement to work at the Canadian Science Centre for Human and Animal Health. Conservative initial enrolment is based on 20% of students choosing to further their education immediately.

ii. Continued Enrollment

It is expected that enrollment for the consecutive years 2, 3, and 4 will gradually increase and will be relatively constant with about 25-30 students entering into the degree completion program in Medical Laboratory Sciences by 2010. This is the year CSMLS has set a degree requirement for certification examinations. The limiting factor for the degree completion enrollment will be the availability of clinical training sites.

iii. Student profile

Students entering into the program should be self-motivated and independent, with a keen interest in human sciences and disease. Analytical and critical thinking skills are essential as well as a strong commitment to life-long learning.

The selective admission requirements for entry to the allied health degree program would include completion of pre-requisite year of study, graduation from the RRC medical laboratory science diploma program, certification through the Canadian Society for Medical Laboratory Science (CSMLS) and successful completion of 060.211 Microbiology B.

and

Proficiency in oral and written English
Successful completion of an entrance test on computer literacy which assesses familiarity of the common application programs or Computer Fundamentals courses.

or

For technologists currently practicing in the field:
Graduation from an accredited diploma program in Medical Laboratory Science/Technology; Certification through the CSMLS, three years related work experience; and successful completion of 060.211, Microbiology B

3. LABOUR MARKET INFORMATION

The Allied Health Degree in Medical Laboratory Sciences will address the human resource needs for health and science based industries in Manitoba. Graduates from this program will find employment in hospital laboratories, private laboratories, physician office laboratories, clinical research laboratories, Canadian Blood Services, Candian Science Centre for Human and Animal Health, pharmaceutical laboratories, industrial laboratories, National Research Council Institute for Biodiagnostics, environmental laboratories, food production industry, related commercial industries.

It is significant to note that nearly 100% of the Medical Technologist workforce in Manitoba graduated from the suspended Manitoba program; thus, Manitoba relies heavily on Manitoba graduates for the provision of service.

Baccalaureate degrees in Medical Laboratory Science already exist in Alberta at the University of Alberta and in Ontario at Lakehead University.

A Bachelor of Allied Health (for Laboratory Science) is being established in Nova Scotia at Dalhousie University, and at Ryerson Polytechnic University in Ontario. Mohawk College, in conjunction with McMaster University, in Ontario is also planning a degree in Medical Laboratory Science

Degree completion programs for Medical Technologists exist in BC at the University of British Columbia, in Ontario at the University of Windsor and the Michener Institute in association with Charles Sturt University, and in New Brunswick at University of New Brunswick.

ii. JOB MARKET

Originally functioning only in the hospital setting, the role of the Medical Technologist has developed and diversified with changes in industry and in the health care setting. Within the hospitals, their role has expanded to additional areas of scientific testing. Health care reform has also affected the way laboratory services are delivered. Academic education now needs to address issues of increased accountability, increased diversity, professional attitudes and ethics, challenges in delivery affected by financial restraints and an understanding of other allied health professionals in order to effect collaboration and cooperation.

Positions are available in hospital laboratories, private laboratories, Regional Health Authorities laboratories, Canadian Science Centre for Human and Animal Health, pharmaceutical laboratories, Canadian Blood Services, industrial laboratories, food production industry, related commercial industries.

iii FUTURE JOB FORECAST

Given the nature and range of services currently provided by Medical Laboratory Technologists, there is a confirmed role for these practitioners now and into the future.

The following data illustrated the critical need to establish a training program in Manitoba

a) Canadian Society for Medical Laboratory Science (CSMLS) membership statistics compared to Manitoba Society of Medical Laboratory Technologists (MSMLT)

YEAR	CSMLS	MSMLT
1990	23,822	1155
1991	23,862	1152
1992	23,659	1138
1993	23,553	1133
1994	21,294	1111
1995	19,603	1079
1996	17,528	1057
1997	16,284	1020
1998	14,615	912
1999	13,723	755
2000	13,063	770
2001	13,628	785

There has seen a decrease of 370 (32%) members in Manitoba over the 12 year period of 1990-2001

b) CSMLS statistics for June examinations for General Certification Examinations

Year	Candidates	Pass*	Success Rate
1990	667		
1991	653		
1992	611		
1993	582		
1994	595		
1995	485		
1996	444		
1997	394	326	82.7%
1998	417	390	93.5%
1999	257	226	87.9%
2000	349	271	77.6%
2001	373	319	85.5%

* note: This is the number entering the Canadian workforce per year

c) Provincial Training Programs Intake numbers

Year	B.C.	Alta	Sask	Man	Ont	Que	NS	NB	Nfld
87/88	88	160	66	40	456	308	50	26	40
93/94	57	91	50	47	388	375	38	20	36
97/98	0	35	0	20/0	82	150*	0	22	26
99	0	35	16	0	82	150*	0	23	26

d) Manitoba Medical Laboratory Technology Training Program graduation statistics for General Certification

Year	Graduates
1990	32
1991	27
1992	31
1993	36
1994	28
1995	22
1996	22
1997	20
1998	0
1999	0 (no training program currently running)
2000	0 (no training program currently running)
2001	0 (no training program currently running)
2002	0 (16 students complete year 1 of RRC diploma program)

From all of the above data the following conclusions can be drawn:

1. The number of Registered Medical Laboratory Technologists practicing in Manitoba has decreased over the past 12 years.

2. Assuming that the average technologist works for 40 years from age 20 to 60, there is a need to graduate 25 - 30 technologists per year to maintain existing employment requirements in Manitoba. This does not take into account additional employment opportunities for technologists as sales consultants, in pharmaceutical and research laboratories, and the Canadian Science Centre for Human and Animal Health.

3. The national data show that there is a critical need to increase enrolment in educational programs to address national market needs.

4. Although the number of Registered Technologists practising in Canada has declined, the number of graduates required to maintain national requirements (using the same formula above) is a minimum of 400 per year. CSMLS examination statistics show that this number is barely being met.

iv. RELATIONSHIP TO PROVINCIAL ECONOMIC, SOCIAL AND CULTURAL PRIORITIES:

The program recognizes the importance of high-skilled workers in building a strong provincial economy and helps to provide a solution to the issue of recruitment and retention of a skilled workforce in Manitoba.
It is in line with Manitoba Health's commitment to provide the people of Manitoba with the best possible health care through high quality service delivery.
The field of Medical laboratory Sciences has always been a female-dominated profession. It provides an excellent opportunity to increase gender representation in science and technology.

v. COMMUNITY CONSULTANTS:

* FORMER RRC MEDICAL LABORATORY PROGRAM ADVISORY COMMITTEE
  The original proposal was presented to the full committee membership of the Red River College Medical Laboratory Technology Advisory Committee. The committee membership consists of major stakeholders representing the community at large. This committee also received many letters of support from existing employers for a change to include a degree.

* PROFESSIONAL ORGANIZATIONS
  The Manitoba Society of Medical Laboratory Technologists has provided input and guidance in the development of the program. Many members are also members of the RRC Advisory Committee.

  The International Association of Medical Laboratory Technologists (IAMLT) supports degree based education, as most countries of the developed world require degree based training as an entrance to practice for the profession

* AFFILIATED MEMBERS
  Members at large, who have affiliation with the Clinical Microbiology Society and the Manitoba Society of Clinical Chemists have been briefed on the proposed model and are supportive.

* EMPLOYERS

The program proposal has the support of the major employers of Medical Technologists within the province of Manitoba, including the Winnipeg Regional Health Authority's Laboratory Program Team, Regional Health Authorities of Manitoba, Canadian Blood Services, and Canadian Science Centre for Human and Animal Health.

* EDUCATIONAL INSTITUTIONS:

The program has been developed as a joint effort between the University Of Manitoba (Faculty of Medicine), Red River College (Department of Health and Applied Science), and affiliated Clinical Sites

BACHELOR OF ALLIED HEALTH
PROPOSED 4 YEAR DEGREE (Diploma Exit)
AMENDED: January/2003

Co-requisites: Computer fundamentals
CPR (must be completed before Clinical Rotation)
Medical Terminology (self-study)

YEAR 1 (Pre-requisite Year-University 1)

MEDICAL LABORATORY TECHNOLOGY
FOCUSED APPROACH COURSES

COURSE #,	CREDIT	AND NAME
002.130(L)	3	Structure and Modeling in Chemistry
002.131(L)	3	An Introduction to Physical Chemistry
		OR
002.132(L)	3	Introduction to Organic Chemistry
022.132(L)	3	Anatomy of the Human Body
022.133(L)	3	Physiology of the Human Body
071.125(L)	6	Biology B
005.100M	3	Basic Statistical Analysis
099.111W	3	Introduction to University or any 3 credit W course

6 credit hours of electives
Program Recommends:

016.102(L)	3	General Physics I
016.103(L)	3	General Physics II

TOTAL CREDITS FOR YEAR 1: 30

SPECIALTY: MEDICAL LABORATORY TECHNOLOGY DIPLOMA ENTRY

YEAR 2
COMPULSORY COURSES

COURSE #,	CREDIT	AND NAME	SITE	TERM	PRE-REQ	COMMENTS
MLSC 104	3	Elementary / Human Biopathology	RRC	inter	[022.133L]	
MLSC 101	3	Human Workplace Relations (legal and ethical expand)**	RRC	inter		
MLSC 102	3	Laboratory Safety and Risk Management	RRC	1		
MLSC 106 (L)	3	Analytical techniques	RRC	1	[002.131/060.131 or 132]	
MLSC 103 (L)	3	Elements in Biochemistry I	RRC	1	[002.131/060.131 or 132]	
MLSC 107 (L)	3	Elements in Biochemistry II	RRC	inter	[MLSC 107]	
MLSC 109	3	Basic Immunology	RRC	1		
MLSC 100(L)	3	Clinical Microbiology I	RRC	1	[002.131]	
MLSC 204 (L)	3	Clinical Microbiology II	RRC	2	[MLSC 100]	
MLSC 105 (L)	3	Phlebotomy/pre and post analytical processing GMP, TQM/CQI POCT	RRC/Clinical Sites	inter	[MLSC 101, MLSC 102, 022.132, 022.133	8 weeks
MLSC 306 (L)	3	Hematology/Hematopathology I	RRC	2	MLSC 103, MLSC 109	
MLSC 305	3	Clinical Chemistry	RRC	2	MLSC 103, MLSC 106*	* co-requisite
MLSC 307 (L)	3	Transfusion Science	RRC	inter	MLSC 109	
MLSC 205 (L)	3	Microanatomy	RRC	2	002.133	
MLSC 308 (L)	3	Histotechnology	RRC	inter	MLSC 205	

TOTAL CREDITS YEAR 2: 45

YEAR 3

COMPULSORY COURSES

COURSE #, CREDIT AND NAME			SITE	TERM	PRE-REQ	COMMENTS
MLSC 406	3	Clinical Education in Histology	Clinical Sites	1-4	MLSC 101, 102, 308	length 8 weeks
MLSC 407	3	Clinical Education in Transfusion medicine	Clinical Sites	1-4	MLSC 307	length 8 weeks
MLSC 304L	3	Clinical Microbiology III	RRC		MLSC 204	
MLSC 405	9	Clinical Education in Microbiology	Clinical Sites	1-4	MLSC 101, 102, 204, MLSC 304*	*co-requisite length 11 weeks
MLSC 401L	3	Transfusion Science 2	RRC		MLSC 307	
MLSC 403L	3	Advanced Hematology/Hemostasis	RRC		MLSC 306	
MLSC 404	6	Clinical Education in Hematology	Clinical Sites	2-4	MLSC 101,102, 306 MLSC 403*	* co-requisite length 7 weeks
MLSC 400	3	Advanced Clinical Chemistry	RRC		MLSC 107, 305	
MLSC 408	6	Clinical Education in Chemistry	Clinical Sites	2-4	MLSC 101, 102, 305, MLSC 400*	* co-requisite Length 7 weeks
MLSC 402	3	Quality Management	RRC		005.100	

ELECTIVE COURSE (* *Required for individuals continuing on to degree)*

060.211L	3	Microbiology B*	UofM	2	060.210 or MLSC 100 & 204	

TOTAL CREDITS YEAR 3: 42 (45*)

TOTAL CREDITS FOR PROGRAM: 117 (120*)

Entry to practice: Students who have successfully completed the required 125 credits in the program to Year 3 are eligible to write the CSMLS national certification examinations.

NOTE : students would be able to write October CSMLS examinations and would have no breaks between 2nd and 3rd year

YEAR 4 (Optional Degree Completion)

COMPULSORY COURSES

015.274	3	Ethics in Biomedicine	UofM	2		
060.341	3	Molecular Biology	UofM	1	060.211, 002.278 or equivalent	
060.458	3	Recombinant DNA Technology	UofM	2	060.341	
163.4DY	3	Management in Laboratory Medicine	UofM	2		
163.4DU	3	Clinical Immunology	UofM		MLSC 109 or 060.402	
163.4DV	3	Clinical Education in Immunology	Clinical Sites		MLSC 109, 163.4DU*	*co-requisite, length 6 wks
068.245	3	Research Methods	UofM	2	005.100	
163.4DX	3	Seminars in Laboratory Medicine	UofM		MLSC 400, 401, 402, 403, 308	

6 credits of Electives (Sample list)

163.4DW	3	Elective rotation in Specialty Lab	Clinical Sites			length 4 weeks
077.120	6	Introduction to Sociology	UofM			
017.120	6	Introduction to Psychology	UofM			
047.208	3	Interpersonal Communication Skills	UofM			
125.302	6	Introduction to Human Genetics	UofM			
any 3 credit humanities course			UofM			

TOTAL CREDITS YEAR 4: 30

TOTAL CREDITS FOR BACHELOR OF ALLIED HEALTH SCIENCE IN MEDICAL LABORATORY SCIENCE: 150

August 19, 2003

Report of the Senate Committee on Curriculum and Course Changes regarding the proposal of the Faculty of Medicine for a Bachelor of Allied Health Science (Medical Laboratory Science) degree Program

Preamble

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) is found in section 8.21 of the *Senate Handbook,* wherein SCCCC is charged "to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula or courses".

2. SCCCC met with representatives of the Faculty of Medicine to discuss the proposal for Bachelor of Allied Health Science (Medical Laboratory Science) on August 21, 2003.

Observations

1. The development of the degree program in Medical Laboratory Science stems from the need to have highly trained workers in the specialized fields of immunology, virology and will help to meet the demand for Medical Laboratory Science workers. There was a complete cessation of training of any kind in Manitoba for a five year period in the late '90s, which has resulted in a demand in hospital laboratories, private laboratories, Regional Health Authority laboratories, Canadian Blood Services, industrial laboratories, food production industry and related commercial industries.

2. While the diploma is the entry to practice credential at the present time, by 2010, a degree will be required as the entry to practice credential in Canada. Many countries already require a degree for entry to practice. Additionally, many diploma trained workers in the field presently will want to take advantage of the degree-completion option to upgrade their skills, particularly with emerging knowledge.

3. COPSE waived the statement of intent for this program.

3. No degree program exists in Manitoba at this time. At present, following the completion of 24 credit hours of university science courses, students are admitted to a two year diploma program offered by Red River College, at which time they challenge the certification examinations of the Canadian Society for Medical Laboratory Sciences for entry to practice.

4. The proposed program structure is a 1+2+1 structure in that the first year of the program is 30 credit hours of University 1 courses, followed by the 2 year Red River College Diploma. Students must also complete 060.211L Microbiology B and be eligible to write the certification examination prior to applying for admission into the degree completion year for the Bachelor of Allied Health Sciences (Medical Laboratory Science).

5. Current practicing technologists would also have the option to complete a degree with

one additional year of training. The required courses and elective courses for this program are slightly modified from the full program. This would allow practicing technologists an option to upgrade and increase their existing knowledge and skills. Clinical Education requirements for currently practicing technologists would be optional.

6. In addition to the courses offered at Red River College, and the existing courses offered as part of the University 1 year, fifteen credit hours of new courses are proposed.

7. Letters of support from faculties offering courses in the program have been received, and any new costs associated with the additional offerings of these courses have been accounted for in the budget plans of the program.

8. The program contains 9 weeks of clinical training within the degree program, with an additional 45 weeks of clinical training having taken place in the Red River College Diploma Program.

9. SCCCC has recieved a statement of library resources indicating that there are sufficient holdings in the Neil John Maclean Heallth Sciences Library to support the program with limited infusion of resources for start up costs and an annual baseline allocation to support the collection.

Recommendation

The Senate Committee on Curriculum and Course Changes recommends that Senate approve the proposal for a Bachelor of Allied Health Science (Medical Laboratory Science) within the Faculty of Medicine together with the following new courses:

Courses to be introduced:

163.4DU Clinical Immunology +3
Theoretical course covering topics in immunopathology and the analytical techniques used to diagnose immunoproliferative and lymphoproliferative disorders and auto-immune diseases or techniques used to assess donors and recipients for organ transplantation. (Pre-requisites: MLSC109, MLSC,307 or instructor permission)

163.4DV Clinical Education in Immunology +3
5 weeks of clinical experience in a Diagnostic Immunology Laboratory of an approved clinical site. Rotation will include application/performance/interpretation and reporting of the following techniques; Nephelometry, radial Immunodiffusion, indirect fluorescent antibody, ELISA, RIA, immuno-electrophoresis, flowcytometry, serological assays and molecular biology assays. (Pre-requisites: MLSC109, MLSC307 Co-requisites: 163.4DU

163.4DW Elective in a Specialty Laboratory +3
Four week rotation in a participating laboratory that provides the opportunity to understand the application of techniques in laboratory areas of interest or areas not covered in the program to date. Goals and objectives for each rotation to be defined in conjunction with the laboratory directors. (Pre-requisites: MLSC407, MLSC404, MLSC408, MLSC405, MLSC406 or Medical Laboratory Technology diploma.

163.4DY Management in Laboratory Medicine +3
The provision of quality laboratory analyses and efficient reporting of results relies on the application of sound principles of administration and supervision outlined in this course.

163.4DX Seminars in Medical Laboratory Science +3
An interactive series of seminars and lectures focusing on the technical advances in all disciplines of laboratory medicine. (Pre-requisites: MLSC407, MLSC404, MLSC408, MLSC405, MLSC406 or permission of instructor)

NET CHANGE IN CREDIT HOURS: +15

Respectfully submitted,

Professor B.L. Dronzek, Chair
Senate Committee on Curriculum and Course Changes

/jml

October 27, 2003

Report of the Senate Planning and Priorities Committee on the Proposal to introduce a Bachelor of Allied Health Science (Medical Laboratory Science)

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found in the *Senate Handbook*, Section 8.32, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.

2. The Faculty of Medicine, in collaboration with the Red River College (RRC), proposes the creation of a 4-year *Bachelor* of Allied Health Science degree in Medical Laboratory Science. The degree is intended to be a degree completion program for the already existing diploma in Medical Laboratory Technology offered by the RRC.

Observations

1. The ever-increasing complexity of medical science places a growing importance on the skills and resources of the medical laboratory. Contemporary medical diagnosis requires sophisticated laboratory tests to pinpoint accurately and identify health problems. In addition to the strong science component, technologists must be problem solvers and critical thinkers, possess applied research skills and effective communication skills.

2. The proposed Bachelor of Allied Health Science in Medical Laboratory Science is an optional degree completion year that is built upon the current diploma program offered through Red River College. The degree year will include courses in immunology, molecular biology, virology, ethics, clinical research and basic laboratory management principles. These courses will bridge the gap that currently exists in laboratory science and better prepare technologists to adapt to the future challenges.

3. Entry into the degree completion program would require the completion of University 1 and the medical technology diploma program at RRC. The completion year has compulsory courses chosen from existing courses in microbiology, research methods, and ethics, and some proposed new courses in immunology, management in laboratory medicine and a seminar in laboratory medicine. A total of 15 credit hours of new courses in Allied Health Sciences (department 163) are proposed.

4. The Allied Health Science Degree in Medical Laboratory Sciences will address the human resource needs for health and science based industries in Manitoba. Graduates from this program will find employment in hospital laboratories,

private laboratories, physician office laboratories, clinical research laboratories, Canadian Blood Services, Canadian Science Centre for Human and Animal Health, pharmaceutical laboratories, industrial laboratories, National Research Council Institute for Biodiagnostics, environmental laboratories, food production industry, related commercial industries.

5. Conservative initial enrolment is based on 20% of RRC graduates choosing to further their education immediately. It is expected that enrollment for the consecutive years will gradually increase and will be relatively constant with about 25-30 students entering into the degree completion program in Medical Laboratory Sciences by 2010; this is the year Canadian Society for Medical Laboratory Science has set a degree requirement to write certification examinations.

6. Resources:
   a. $73,000 ongoing baseline funding is being sought for new salaried positions.
   b. $19,000 in the first year, an additional $20,000 in the second year and an additional $27,000 in the third year, for total ongoing funding of $66,000 will be needed for clinical support. It is anticipated that these funds will come from Manitoba Health.
   c. Tuition revenue will fluctuate according to the number of students registered. This income is projected to increase from approximately $15,000 in the first year to $31,000 in the second year and $47,000 in the third year.

7. Library statements on the program and the proposed new courses are included. Library resources are able to support the proposed program, but would require an initial, one-time, expenditure of $6400.- in the first year of the program, to bring library holdings up to date. An additional $5000 annually would need to be added to the Neil John Maclean Health Sciences Library baseline budget to support the needed journal subscriptions and collection maintenance.

Recommendations:

The SPPC recommends that:

1. Senate approve and recommend that the Board of Governors approve the introduction of a Bachelor of Allied Health Science (Medical Laboratory Science).

2. The Vice-President (Academic) and Provost not implement the program until he is satisfied that sufficient new funding is in place adequately to fund the implementation and on-going operation of the program.

Respectfully submitted,

Juris P. Svenne, Acting Chair
Senate Planning and Priorities Committee

/jml

Program Overview Summary

Program Name: Bachelor of Allied Health Science - Medical Imaging

Credential to be offered: Undergraduate degree

Accreditation requirement: Canadian Medical Association Conjoint Committee

Length of program: 30 credits of University 1, plus 24 month diploma, plus 1 year For degree completion (1+2+1)

Proposed program start date: September 2004

Which department(s) within the institution will have responsibility for the program?
University of Manitoba – Faculty of Medicine

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

- X **High**
- ☐ Medium
- ☐ Low

New Program Proposal for: University of Manitoba
Diploma Program exists at Red River College

Is this a revision of an existing program? No

If YES, name program:

What are the impacts of changing this program?

1. Graduates with degrees will have improved skills in critical thinking and problem solving, and will thereby improve the quality of care offered to those who require Diagnostic Imaging services.
2. Graduates will be eligible to participate in graduate education
3. Graduates with degrees will have enhanced opportunities to participate in related fields (i.e. research, administration, etc.)
4. Improved patient outcomes, as students will experience an increase in the practical/clinical training and graduate with an increased skill set. The graduates will be competent to operate in the more specialized modalities such as computed tomography and require minimal on the job training.
5. Costs to students will increase and length of time in the education program will increase; however costs will be minimized by building on the current diploma program offered at RRC and the increased education costs will give graduates additional skills that will better prepare them to take on expanding roles expected upon employment.
6. The program is designed to use several existing University of Manitoba courses. It is necessary to develop some new discipline-specific courses through the University Of Manitoba to provide the required knowledge base for increased clinical rotations through specialized areas such as angiography, computed tomography, and magnetic resonance imaging.

Will the program be available to part-time students:
Pre-requisite Year (University 1) could be taken on a part-time basis
Degree completion for practicing Medical Radiological Technologists could be taken on a part-time basis because there is no clinical education requirement

Once the students enter parts of the program that require clinical placements, there may not be enough flexibility in the system to allow for part-time status

Will the program have a cooperative education component?

All clinical practicums will take place at hospitals within the Winnipeg Regional Health Authority.

If YES, how long will the field placement be?

Clinical Practicum: Clinical Education 6 (Specialized Imaging Techniques and Independent practice – 13 weeks (Year 3)

Will the program contain an option to assess the prior learning of students, to grant credit for the skills/knowledge already present? YES

Provide details:

The program is designed to use as many existing courses from the UofM as possible. Students entering the program who have taken these courses would be granted credit.

Students could also apply to have "like" courses evaluated for credit. This may require them to take challenge examinations to ensure critical knowledge is achieved.

Certified Radiologic Technologists seeking to upgrade to a degree would be granted credit for diploma achievement. These individuals could also submit continuing education courses for assessment.

Will there be distance delivery options? ☐ Yes ☐ No

Provide details: Not immediately, but can develop. Flexible delivery systems like distance education would make the program more available and more appealing. With innovative teaching methods being developed for television and computer and with access to the internet so affordable, it is possible to have parts of the program available through distance education. The viability and cost/benefit would have to be determined. There is a trend however for educational institutions to expand their roles in this area.

Will this program be delivered jointly with another institution?

The total program would be delivered between the UofM, RRC and the affiliated clinical training sites. Each educational institution would have responsibility for parts of the program. UofM for year 1 and degree completion, RRC for diploma portion (years 2 & 3)

Are similar programs offered in Manitoba or other jurisdictions? No

Departmental managers and radiologists have identified the need for medical radiation technologists to have increased knowledge and competencies in a number of areas. The additional skills of this program would reduce the after-hiring training requirements for specialized imaging techniques such as computed tomography and mammography for example.

If YES, indicate why this program is needed (e.g., area of specialization)

What articulation, block transfer or credit transfer arrangements will you be looking at developing for this program?

1) Current diploma courses offered by Red River College would require credit transfers or block transfer.

Specific Program Information

1. Program Description

Describe the program and its objectives:

In total, this is an integrated academic and clinical program that is built upon the current Red River College diploma program in Medical Radiological Technology which prepares it graduates for certification and registration with the Canadian Association of Medical Radiation Technologists (CAMRT).

Educational Objectives of the Proposed Program:

The program is designed so that graduates are able to:

1. demonstrate increased knowledge, understanding and competency in the application of their skills.

2. practice assessment procedures, interpret information and apply problem solving and critical thinking skills to their every day practice.

3. implement quality practices and perform within safety standards relating to the application and utilization of equipment relative to patient care and diagnosis.

4. identify their role in the health care system and participate in decision-making processes that relate to medical imaging.

5. understand the ethical, legal and professional responsibilities of their discipline of medical imaging and apply them in practice.

6. demonstrate a commitment to the philosophy of holistic medicine and recognize patients and their families as unique individuals.

7. treat patients with dignity and respect and in doing so accept the role of patient advocate.

8. participate in clinical and basic research.

9. commit to self-evaluation and life-long learning.

10. sit national certification examinations as set by the Canadian Association of Medical Radiation Technologists (CAMRT)

Provide an overview of the content to be taught in this program:

See Section B: Proposed Curriculum

8. Enrollment

There is a demand to graduate 25-30 Medical Radiological Technologists per year to address the ongoing needs within the province. It is expected that the (1+2+1) program model will attract individuals who would otherwise enter directly into a Bachelor of Science program. The degree completion year can accommodate up to 30 students per year, however the number of students accepted into the program will be set by the Advisory council and will be based upon resources available for clinical practicum.

Describe the expected student profile:

Motivated individuals with strong science background, possessing manual dexterity and communication skills, with a caring, nurturing attitude.

9. Labour Market Information

What labour market need is the program expected to meet?

In order to work in this field technologists must be graduates of an accredited program in Radiography and have passed the national certification examinations available only through the Canadian Association of Medical Radiation Technologists (CAMRT). As mandated by the CAMRT, by the year 2005 only those completing a degree program may access the certification exams.

The majority of Registered Technologists in Manitoba are employed by facilities within the WRHA. Currently, there are approximately 500 Registered Technologists employed in this province. Manitoba relies heavily on its own graduates to provide its diagnostic imaging services. Manitoba is currently experiencing a shortage in registered technologists, which is contributing to lengthy waiting lists for patients requiring diagnostic imaging procedures. The increased use of special imaging techniques is also contributing to the need for technologists with additional skills in these areas.

Are there currently jobs in Manitoba in this field Yes

See additional information under Demand for Program Section

What is the future job forecast for individuals with this education/training/credential?

Registered Technologists have a unique body of knowledge and skills which are not duplicated by any other health care profession. The application of these skills and knowledge relies heavily on problem solving, critical thinking and decision making abilities, thus making them ideal candidates for a variety of related positions in the health care continuum.

Other opportunities available, outside of the traditional scope of practice include patient services, equipment applications support, equipment sales, teaching and research as well as opportunities to enter the field of Ultrasound and to specialize in areas such as MRI. With the enhanced educational background that the Degree Program would provide, it is anticipated that many more opportunities both professional and educational, will become available to these graduates.

How does this program fit with Manitoba's stated economic, social and other priorities?

The program recognizes the importance of highly-skilled workers in building a strong provincial economy and helps provide a solution to the issue of recruitment and retention of a skilled workforce in Manitoba.
It is in line with Manitoba Health's commitment to provide the people of Manitoba with the best possible health care through high quality service delivery.
The field of Medical Imaging has always been a female-dominated profession. The degree program provides an excellent opportunity to increase gender representation in science and technology.

What agencies, groups, institutions will be consulted regarding development of the program?

- RRC Medical Radiological Technology Advisory Committee
- Professional Organizations
  - Manitoba Association of Medical Radiation Technologists
  - Canadian Association of Medical Radiation Technologists
- Employers
  - Winnipeg Regional Health Authority (WRHA)
  - Regional Health Authorities of Manitoba (RHAM)
- Educational Institutions
  The program has been developed as a joint effort between the UofM (Faculty of Medicine), RRC and the affiliated clinical sites

For additional information see completed program submission.

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

BACHELOR OF ALLIED HEALTH SCIENCE
PROPOSED (4 YEAR) DEGREE COMPLETION PROGRAM IN MEDICAL IMAGING

DATE: May, 2003

Year 1 – (Pre-requisite Year – University 1)

FOCUSED APPROACH COURSES

COURSE #,	CREDIT	AND NAME
022.132	3	Anatomy of the Human Body
022.133	3	Physiology of the Human Body
016.102	3	General Physics 1
016.103	3	General Physics 2
077.120	6	Introduction to Sociology
005.100M	3	Basic Statistical Analysis
002.130	3	Structure and Modeling in Chemistry
0 99.111W	3	Introduction to University or any 3 credit W course

and 3 credit hours of electives, Program recommends:

032.124W	3	Native peoples of Canada part II
047.208	3	Interpersonal Communication Skills
015.129	3	Critical Thinking

Equivalent courses available at other post-secondary institutions (eg. Red River College, Universities of Winnipeg and Brandon, Campus Manitoba, etc.)

TOTAL CREDITS FOR YEAR 1: 30

DIPLOMA PROGRAM IN MEDICAL RADIOLOGICAL TECHNOLOGY AT RED RIVER COLLEGE

Co-requisites: H04-A111 Computer Fundamentals
H04-A109 Medical Terminology (Self Study)
CPR (must be completed before Clinical Rotation)

YEAR 2
COMPULSORY COURSES

COURSE #,	CREDIT	AND NAME	SITE	TERM	PRE-REQ	COMMENTS
H04-A108	2	Human Workplace Relations	RRC	1		
H04-A122	3	Radiobiology and Protection	RRC	1	002.130L, 022.132L, 016.102L, 016.103L	All co-requisites must
H04-A112	2	Radiographic Anatomy	RRC	1	022.132L, 022.133L	be completed prior to
H04-A131L	3	Radiation Science and Apparatus 1	RRC	1,2	002.130L, 022.132L, 016.102L, 016.103L	Patient Care and Clinical 1
H04-A132L	2	Radiation Science and Apparatus 2				
H04-A114	3	Radiographic Techniques 1	RRC	1,2	022.132L, 022.133L	
H04-A119	3	Patient Care 1	RRC	1,2		
H04-A118L	3	Image Recording 1	RRC	2		
H04-A121	2	Radiographic Pathology	RRC	2		
H04-A120	3	Physics for Medical Radiologic Technology	RRC			
H04-A124	3	Radiographic Techniques 2	RRC			
H04-A128	3	Image Recording 2	RRC			
H04-A129	3	Patient Care 2	RRC			
H04.A208	2	Computed Tomography and Sectional Anatomy	RRC	1		
H04-A231	2	Management Practices	RRC			
H04-A232	2	Radiation Science and Apparatus 3	RRC			
H04-A1XX	0	Clinical Orientation	Clinical Sites			2 weeks in March

TOTAL CREDITS YEAR 2: 41

YEAR 3

COMPULSORY COURSES

H04-A130	(3)	Clinical Education 1 (Introduction to Clinical Imaging)	Clinical Sites	length 5 weeks over 9 weeks
H04-A205	(9)	Clinical Education 2 (General Radiographic Imaging 1)	Clinical Sites	length 12 weeks
H04-A210	(9)	Clinical Education 3 (General Radiographic Imaging 2)	Clinical Sites*	length 13 weeks
H04-A211	(9)	Clinical Education 4 (Advanced Medical Imaging 1)	Clinical Sites	length 12 weeks
H04-A2XX	(9)	Clinical Education 5 (Advanced Medical Imaging 2)	Clinical Sites	length 13 weeks

TOTAL CREDITS YEAR 3: (39) **TOTAL CREDITS FOR DIPLOMA IN MEDICAL RADIOLOGICAL TECHNOLOGY: (107)**

DEGREE PROGRAM IN MEDICAL IMAGING AT UNIVERSITY OF MANITOBA

YEAR 4

COMPULSORY COURSES

068.245	3	Research Methods	UofM	1	[005.100M, diploma in MRT]	
015.274	3	Ethics in Biomedicine	UofM	2	[30 hours of University credit]	
163.4BZ/ 016.322	3	Medical Physics and Physiological Measurement	UofM	2	[with permission and diploma in MRT]	
163.4BX	3	Electronic and Digital Imaging	UofM	1	[H04-A232, A208]	co-req: 158.4BU
163.4BU	3	Specialized Imaging Applications	Clinical Sites	1	[H04-A232, A208,]	co-req: 158.4BX
163.4BV	9	Clinical Education 6 (Specialized Imaging techniques & Independent Practice	Clinical Sites		[H04-A211, ? Clinical 5]	length 9 weeks (2 days x 13 wks= 26days (4wks)

6 credits of Electives (Sample list)

077.354	3	Sociology of Health Care Systems	UofM	2	[077.120]	
032.124W	3	Native Studies	UofM	2		
068.346	3	Intro to Health Care Admin & Management	UofM	2		
077.249	6	Sociology of Health & Illness	UofM	1,2	[077.120]	
015.129	3	Critical Thinking	UofM	2		

TOTAL CREDITS YEAR 4: 30

University credits: Year 1+Year 4 (30+30=60)
RRC credits: Year 2 + Year 3 (41+39=80)

TOTAL CREDITS FOR BACHELOR OF ALLIED HEALTH SCIENCES – MEDICAL IMAGING (140)

October 6, 2003

Report of the Senate Committee on Curriculum and Course Changes regarding the proposal of the Faculty of Medicine for a Bachelor of Allied Health Science (Medical Imaging) degree Program

Preamble

1. The terms of reference for the Senate Committee on Curriculum and Course Changes (SCCCC) is found in section 8.21 of the *Senate Handbook*, wherein SCCCC is charged "to recommend to Senate on the introduction, modification or abolition of undergraduate programs, curricula or courses".

2. SCCCC met with representatives of the Faculty of Medicine to discuss the proposal for Bachelor of Allied Health Science (Medical Imaging) on October 6, 2003.

Observations

1. The development of the degree program in Medical Imaging stems from the need to have highly trained workers in the specialized fields of producing radiographic images, performing manmography, doing computed tomography (CT) examinations; and assisting radiologists, cardiologists, and other specialists in a variety of procedures such as angiograms, angioplasties, needle biopsies and fluoroscopy-guided examinations and treatments. There is currently a high level of demand for trained Medical Imaging workers.

2. While the diploma is the entry to practice credential at the present time, by 2005, the Canadian Association of Medical Radiation Technologists (CAMRT) will require a degree as the entry to practice credential in Canada. Many countries already require a degree for entry to practice. Additionally, many diploma trained workers in the field presently will want to take advantage of the degree-completion option to upgrade their skills, particularly with emerging knowledge.

3. COPSE waived the statement of intent for this program.

4. No degree program exists in Manitoba at this time. At present, following the completion of 27 credit hours of university arts and science courses, students are admitted to a two year diploma program offered by Red River College, at which time they write the certification examinations of the CAMRT for entry to practice.

5. The proposed program structure is a 1+2+1 structure in that the first year of the program is 30 credit hours of University 1 courses, followed by the 2 year Red River College Diploma.

6. Current practicing technologists who are members in good standing of CAMRT, with at least three years of experience as a Medical Radiologic Technologist would also have the option to complete a degree with one additional year of training. The required courses and elective courses for this program are slightly modified from the full

program. This would allow practicing technologists an option to upgrade and increase their existing knowledge and skills.

7. In addition to the courses offered at Red River College, and the existing courses offered as part of the University 1 year, 18 credit hours of new courses are proposed.

8. Letters of support from faculties offering courses in the program have been received, and any new costs associated with the additional offerings of these courses have been accounted for in the budget plans of the program.

8. The program contains 9 weeks of clinical training within the degree program, with an additional 57 weeks of clinical training having taken place in the Red River College Diploma Program.

9. SCCCC has recieved a statement of library resources indicating that there are sufficient holdings in the Neil John Maclean Heallth Sciences Library to support the program provided that there is an infusion of new resources for start up costs and an annual baseline allocation to support the collection.

Recommendation

The Senate Committee on Curriculum and Course Changes recommends that Senate approve the proposal for a Bachelor of Allied Health Science (Medical Imaging) within the Faculty of Medicine together with the following new courses:

Courses to be introduced:

163.4BZ **Medical Physics and Physiological Measurement** **+3**
This course will introduce the core subject areas of Medical Physics, in particular the physics of physiology and of radiology. The mechanics of the body systems and the theory, medical applications and safety issues relating to the production, use, detection and measurements of electromagnetic radiation (both ionizing and non-ionizing) will be included. It will also cover Medical Imaging (Ultrasound, CT and MRI) and will provide the student with an understanding of the physics underlying neurological, audiological, respiratory and vascular function and measurements. (*Pre-requisites: 016.260 or 016.220, MRT diploma or consent of the department) Not to be held with 016.322*

163.4BX **Electronic and Digital Imaging** **+3**
This course will build on previous x-ray interaction knowledge and apply it to new digital techniques such as multi detector row computed tomography (MDrCT), new digital projection radiography systems (DR) and hybrid designs such as computed radiography (CR). The student will understand the complexities of achieving image quality while balancing dose to the patient. *(Pre-requisite MRT diploma Co-requisite: 163.4BU)*

163.4BU **Specialized Imaging Applications** **+3**
The student will acquire additional knowledge, skills and values in the application of specialty areas of imaging to professional practice. Emphasis will be placed on problem solving, leadership and research skills. *(Pre-requisite: MRT diploma Co-requisite: 163.4BV)*

163.4BV **Clinical Education 6** **+9**
Students will achieve an introductory level of competency in areas of specialized imaging, and finalize the integration of general imaging concepts and skills by gaining experience toward independent practice. Emphasis will be on advanced critical analysis, problem solving, leadership, research and presentation skills. *(Pre-requisite: MRT diploma Co-requisite: 163.4BU)*

NET CHANGE IN CREDIT HOURS: **+18**

Respectfully submitted,

Professor B.L. Dronzek, Chair
Senate Committee on Curriculum and Course Changes

/jml

October 27, 2003

Report of the Senate Planning and Priorities Committee on the Proposal to introduce a Bachelor of Allied Health Science (Medical Imaging)

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found in the *Senate Handbook*, Section 8.32, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.

2. The Faculty of Medicine, in collaboration with the Red River College (RRC), proposes the creation of a 4-year Bachelor of Allied Health Science degree in Medical Imaging. The degree is intended to be a degree completion program for the already existing diploma in Medical Imaging offered by RRC.

Observations

1. Virtually every Canadian will be cared for by a Medical Radiological Technologist at some time. Technologists are part of the medical team in hospitals and clinics, providing vital services to patients and assisting specialists in a variety of procedures. Medical Radiological Technologists must be able to provide care to patients, perform assessments of patients, ensure patients' safety during procedures, ensure the quality of images produced, and provide analysis of these images—all while keeping up with the latest advancements in technology and medical research.

2. The proposed Bachelor of Allied Health Science (Medical Laboratory Science) is an optional degree completion year that is built upon the current diploma program offered through Red River College. The degree year will include courses in electronic and digital imaging, medical physics, and specialized imaging techniques. Medical ethics, clinical research, and basic administration principles are also part of the degree completion year. These courses will bridge the gap that currently exists in radiology and better prepare technologists to adapt to the future challenges.

3. Entry into the degree completion program would require the completion of University 1 and the medical radiological technology diploma at RRC, for students who are currently enrolled in that program. For graduate medical radiologic technologists who are members in good standing with Canadian Association of Medical Radiation Technologists (CAMRT) or a provincial regulatory body, eligibility requirements would include 3 or more years of current experience as a MRT, a diploma in medical imaging from an accredited school, and CAMRT certification.

4. The completion year has compulsory courses chosen from existing courses in

research methods, ethics, and medical physics and physiological measurement, and some proposed new courses in electronic and digital imaging, specialized imaging applications, and clinical education. A total of 15 credit hours of new courses in Allied Health Sciences (department 163) are proposed.

5. The Allied Health Science Degree in Medical Imaging will address the human resource needs for health care and related industries in Manitoba. The province is currently experiencing a shortage of registered technologists, resulting in waiting lists for diagnostic imaging services. Most of the approximately 500 registered technologists in Manitoba have been trained here and work in facilities within the Winnipeg Regional Health Authority. Other opportunities include patient services, equipment applications support and sales, teaching and research, and further specialization in Ultrasound and MRI.

6. There is a demand to graduate 25-30 Medical Radiological Technologists per year to address ongoing needs in Manitoba. Although the program can accommodate up to 30 students, a smaller number might be accepted depending on admissions criteria, to be set by an Advisory council. The CAMRT has set a target that by 2005, access to certification exams will be restricted to individuals who have completed a degree program.

7. Resources:
   a) $79,000 ongoing baseline funding and startup of $12,000 are being sought from COPSE.
   b) Approximately $42,000 in the first year, and another $42,000 in the second year, for total ongoing funding of $84,000, will be needed for clinical support. It is anticipated that these funds will come from Manitoba Health. The budget assumes secondment of clinical support staff within the Winnipeg Regional Health Authority, rather than hiring such staff on a sessional basis, at much greater expense.
   c) Tuition revenue is projected to increase from approximately $33,000 in the first year to $49,000 in the second year and $82,000 in the third year.

8. Library statements on the program and the proposed new courses are included. Library resources are able to support the proposed program only if the following requirements are met: An initial, one-time, expenditure of $3640 would be needed in the first year of the program, to bring library holdings up to date. An additional $1500 annually would need to be added to the Neil John Maclean Health Sciences Library baseline budget to support the needed journal subscriptions and collection maintenance. Annual costs of $733.80 per student (based on a library proportion of 6.1% of total program costs in Medical Rehabilitation, applied to one year's worth of study in the program) are necessary to support library services provided to the program.

Recommendations:

SPPC recommends that:

> Senate approve and recommend that the Board of Governors approve the introduction of a Bachelor of Allied Health Science (Medical Imaging).
>
> The Vice-President (Academic) and Provost not implement the program until he is satisfied that sufficient new funding is in place adequately to fund the implementation and on-going operation of the program.

Respectfully submitted,

Juris P. Svenne, Acting Chair
Senate Planning and Priorities Committee

/jml

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Preamble

The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing graduate course deletions, modifications and introductions and makes recommendations to FGS Council. PPC met on September 15, 2003 and made the following recommendation regarding program changes to the M.Sc. in Family Studies.

Observations

1. There are 19 courses to be deleted, 11 courses to be introduced and one course to be modified in the department of Family Studies.

2. The Department of Family Studies and the Faculty of Human Ecology approved the course changes.

3. Statements of Library support for the proposed courses indicated that the Libraries would be able to support each of the courses and the graduate program in Family Studies as a whole.

4. Nine of the 19 courses to be deleted will be re-introduced with new titles to more accurately reflect their content. The remaining 10 courses are to be deleted as they are outdated or do not reflect the current and future directions of the department.

5. The course modification consists of a more accurate calendar description of the course. Course content remains unchanged.

6. Of the 11 courses to be introduced, 9 are replacing courses to be deleted (#4. Above). The two new courses being introduced are 062.73A and 062.76A.
   062.73A will serve as one of two foundation courses for the specialization in Family Violence.
   062.76A will provide an opportunity for students to pursue a topic independently under the direction of a professor.

7. The committee recommended that the Department of Family Studies change the evaluation of course 062.70A from Pass/Fail to a letter grade as the course is for 3 credit hours.

8. A table summarizing the 11 course introductions is attached.

9. Course changes including course numbers and titles are indicated below.

Recommendation

The Programs and Planning Committee of the Faculty of Graduate Studies recommends that the Faculty Council of Graduate Studies approve the course changes as indicated below.

Courses to be deleted:

062.707 Problems in Family Economics (3)
062.709 Seminar in Human Development I (3)
062.710 Seminar in Human Development II (3)
062.711 Readings in Human Development I (3)
062.712 Readings in Human Development II (3)
062.713 Nutrition and Human Development (3)
062.714 Clothing and Human Development (3)
062.715 Readings in the Family (3)
062.716 Seminar in the Family (3)
062.717 Advanced Money Management (3)
062.718 Family in the Canadian Economy (3)

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Courses to be deleted (continued):	062.723 Advanced Infant Development (3) 062.724 Socio-emotional Assessment (3) 062.725 Human Ecology and Social Policy (3) 062.726 Development Assessment 062.727 Intervention with Children with Special Needs (3) 062.728 Seminar in Child Studies (3) 062 729 History and Evolution of Child Care (3) 062.731 Topics in Child Studies (3) **Total Credit Hours deleted: 57**
Course to be modified:	062.701 Seminar in Family Finance (3)
New Calendar description:	Advanced study on topics related to family financial management. A review of theory and literature in the field, contemporary family issues such as financial abuse, addictions and literacy are discussed. A micro-economic perspective and Canadian data sources are used where possible.
Course to be introduced:	**062.70A Family Theory in Research** (3) Theories related to the study of families; use of theory in research on families. Theoretical orientation considered include, for example, social exchange, human ecological, symbolic interactional and family developmental.
Course to be introduced:	**062.72A Work and Family Interrelationships** (3) Advanced study of the earning and caring activities of families and how these activities interrelate at the community, provincial, national and global levels.
Course to be introduced:	**062.73A Family Violence** (3) Advanced study of current topics in family violence over the life course. Topics may include child, sibling, parent and elder abuse, and courtship and partner violence. Emphasis is on understanding and critiquing current theory and research.
Course to be introduced:	**062.73B Conflict and Mediation in Families** (3) Examination of conflict origin and manifestation in family relationships throughout the life span. Includes a review a spouse/partner, parent/child and sibling interaction patterns and current family mediation models.
Course to be introduced:	**062.74A Children and Violence** (3) An examination of children's experiences of violence at the levels of families, communities and societies. Relevant theoretical and measurement issues are addressed, as well as the development outcomes of various forms of violence. The incidence and prevalence of violence in children's lives is examined. Models of prevention, intervention and policy are explored.
Course to be introduced:	**062.74B Aging and Families** (3) An examination of contemporary issues confronting families with aging family members. Emphasis is on a review of selected empirical studies in specific areas. Relevant theoretical perspectives are related to the empirical studies.

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Course to be introduced: **062.74C Parent-Child Relationships** (3) Advanced study of the nature of parenting and its influence on developmental health. Focus is on theory and research concerned with parenting and parent/child relationships, changes across time, the influence of the context which parenting occurs and the effect of the parent-child relationship on developmental health.

Course to be introduced: **062.75A Understanding the Inner City: Processes and Dynamics** (3) Advanced Study of community processes and dynamics relative to families within the inner city. Connection among theory, research and application emphasized. Usually offered at an inner city location to facilitate enhanced opportunities for community-based learning.

Course to be introduced: **062.75B Understanding the Inner City: Issues and Perspectives** (3) Examination of community issues and perspectives relative to families and communities within the inner city. The four components of housing (physical, socio-psychological, community and neighbourhood) will be emphasized. Normally offered in an inner city location to facilitate on-site learning. Application of theory and methods to real-life situations; opportunity to exchange, develop and apply knowledge with community partners.

Course to be introduced: **062.76A Independent Study** (3) Opportunity to pursue a topic independently. Student works with an individual professor on a topic of mutual choice. May include written oral and fieldwork. See Family Social Sciences Graduate handbook for regulations.

Course to be introduced: **062.76B Special Topics in Family Social Sciences** (3) Opportunity to investigate an area of family social sciences not usually covered in the curriculum. May be repeated by a student if the topic changes.

Total Credit Hours Introduced: 33

Net Change in Credit Hours: -24

Approved by the Faculty Council of Graduate Studies November 13, 2003

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

Copies of the course proposals are available in the Faculty of Graduate Studies Office for review

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Preamble

The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies has the responsibility of reviewing graduate course deletions, modifications and introductions and makes recommendations to FGS Council. PPC met on October 20 and made the following recommendation regarding the introduction of graduate courses in the School of Music; and, the introduction and deletion of graduate courses in the Faculty of Arts.

Observations

1. There are eight courses to be introduced in the School of Music, which approved the course introductions.

2. Statements of Library support for the proposed courses indicated that the Libraries would be able to support each of the courses.

6. There are ten courses to be deleted and ten courses to be introduced in the department of Political Studies.

7. The Department of Political Studies and the Faculty of Arts approved the course changes.

8. Statements of Library support for the proposed courses indicated that the Libraries would be able to support each of the courses.

Recommendation

The Programs and Planning Committee of the Faculty of Graduate Studies recommends that the Faculty Council of Graduate Studies approve the course changes as indicated below.

SCHOOL OF MUSIC

Course to be introduced:	**033.7xa Advanced Diction 1** (1) Advanced training in rules of pronunciation, language use and translations skills in Italian and German. Lab Required.
Course to be introduced:	**033.7xb Advanced Diction 2** (1) Advanced training in rules of pronunciation, language use and translations skills in French and English. Lab Required.
Course to be introduced:	**033.7xc Piano Repertoire Seminar** (2) Advanced study of the repertoire for solo piano up to the early 20th century.
Course to be introduced:	**033.7xd Piano Chamber Music Literature Seminar** (2) Advanced survey of piano chamber music.
Course to be introduced:	**033.7xe 20th to 21st Century Piano Repertoire** (2) Advanced study of piano repertoire since 1900.
Course to be introduced:	**033.7xf Advanced Piano Pedagogy** (2) Consideration of advanced approaches to the teaching of styles and techniques through an examination of piano repertoire.
Course to be introduced:	**033.7xg Coaching Skills** (2) Advanced training in philosophies and techniques of vocal coaching including both song and operatic repertoire.

Copies of the course proposals are available in the Faculty of Graduate Studies Office for review

Report of the Programs and Planning Committee of the Faculty of Graduate Studies on course proposals/modifications/deletions.

Course to be introduced:

033.7xh Operatic Piano (2) Development of skills required of an operatic pianist, including standard Arias, operatic scores, working with conductors and developing orchestral sound. May include participation in community opera events (by audition only).

Reasons for the introductions:

The material to be covered in the courses has become an important component of graduate study in performance and, collaborative and chamber music work.

Net Change: +14 Credit Hours

POLITICAL STUDIES

Courses to be deleted:

019.723 Selected Topics in Political Analysis (6)
019.727 Selected Issues in Public Administration (3)
019.736 Urban Government and Politics (6)
019.742 Seminar in Communist Political Systems (6)
019.751 Selected Topics in Political Behaviour 2 (3)
019.771 The Political Classics (6)
019.773 International Relations (6)
019.776 Canadian Government (6)
019.781 Regression Models of Political Behaviour (3)
019.783 Armed Force and International Security (6)

Reasons for the deletions:

Courses have not been offered for several years (736, 742, 751and 781) as the interests of current faculty members have changed. The other courses are being deleted and re-introduced with new titles and descriptions to better reflect course content and method of instruction.

Course to be introduced:

019.7xx The Political Classics (3) A thorough study of selected works with special attention to methodology, historical content, theoretical position and universal significance. Students may not hold credit for both 019.7xx and the former 019.771

Course to be introduced:

019.xy Political Theory and Contemporary Issues (3) An examination of recent theoretical perspectives on contemporary political institutions, problems and values. Students may not hold credit for both 019.7xy and the former 019.771.

Course to be introduced:

019.7ye Contemporary Strategic and Security Studies (6) An advanced course in strategic studies. The evolution of strategic thought in the modern period will be examined, and particular emphasis will be placed on the role of armed force in relation to the problem of international security. Students may not hold credit for both 019.7ye and the former 019.783. Normally students will be expected to have taken 019.473 or its equivalent as prerequisite.

Copies of the course proposals are available in the Faculty of Graduate Studies Office for review

Course to be introduced:	**019.7yf International Relations Theory** (3) A critical assessment of basic theories and models used in International Relations, emphasizing theoretical approaches and research. Students may not hold credit for both 019.7yf and the former 019.773
Course to be introduced:	**019.7yg International Political Economy** (3) An examination of the systematic study of international political economy. Particular attention is paid to the foreign economic policies of advanced industrialized states and the various issues surrounding the redistribution of wealth and influence in the contemporary international system.
Course to be introduced:	**019.7za Contemporary Issues in Canadian Politics** (3) A seminar series examining a contemporary debate in Canadian politics and government. The specific topic will vary from year to year depending on faculty interest and specialization.
Course to be introduced:	**019.7zb Directed Readings in Politics 2** (6) An independent reading and/or research course on a selected topic undertaken and arranged in consultation with the prospective instructor, upon approval of the Graduate Committee.
Course to be introduced:	**019.7zc Directed Readings in Public Administration** (3) An independent reading and/or research course on a selected topic undertaken and arranged in consultation with the prospective instructor, upon approval of the Graduate Committee.
Course to be introduced:	**019.7zd Canadian Government** (3) Examines the core institutions of Canadian Government and politics including parliamentary government, federalism, the Constitution and the Charter of Rights and Freedoms. Students may not hold credit for both 019.7zd and the former 019.776.
Course to be introduced:	**019.7ze Canadian Democracy** (3) Examines the core institutions and processes of Canadian democracy including political parties, elections, voting, social movements, interest groups and public opinion. Students may not hold credit for both 019.7ze and the former 019.776.
Reasons for the introductions:	Courses 7xx, 7xy, 7ye, 7yf, 7zb, 7zc, 7zd and 7ze are being introduced with new titles and descriptions to better reflect course content and method of instruction. Courses 7yg and 7za are being introduced to provide a measure of flexibility to allow faculty to offer courses specifically geared to their varying research interests.

Net Change: -15 Credit Hours

Approved by the Faculty Council of Graduate Studies November 13, 2003

Copies of the course proposals are available in the Faculty of Graduate Studies Office for review

December 8, 2003

Report of the Senate Planning and Priorities Committee on Course Changes in the Faculty of Graduate Studies

Preamble

1. The terms of reference of the Senate Planning and Priorities Committee (SPPC) are found in the *Senate Handbook*, Section 8.32, wherein SPPC is charged with making recommendations to Senate regarding proposed academic programs.

2. The Programs and Planning Committee (PPC) of the Faculty of Graduate Studies (FGS) has the responsibility of reviewing graduate course deletions, modifications and introductions, and makes recommendations to FGS Council.

3. The FGS proposes course changes in (and on behalf of) the School of Music, Department of Political Studies, and Department of Family Studies, as recommended by the PPC.

Observations

1. Reports received from the PPC show that (a) all of the proposed course changes received prior approval from the sponsoring departments, schools, and faculties, and (b) library support was adequate for every proposed change.

2. In the School of Music, 8 courses will be introduced (+14 credit hours) to enhance graduate training in performance. These new courses will draw upon the expertise of 4 faculty members who have joined in the past 3 years. These individuals' combined required teaching load (which has been partially offset for policy reasons during their first years in the School of Music) is sufficient to handle the 14 credit hours proposed. As electives, these courses will be offered in sequence or in alternating years, but not in every term.

3. In the Department of Family Studies, 19 courses will be deleted (-57 credit hours), 11 courses introduced (+33 credit hours), and 1 course modified in its calendar description (3 credit hours), for a net change of -24 credit hours. Nine of the 11 courses being introduced will effectively replace courses being deleted. The other 2 courses being introduced will provide new opportunities for independent study and specialization in family violence, respectively. Courses to be deleted and not replaced have become outdated or do not reflect the current and future directions of the department. The proposed changes are intended to underscore and concentrate on the department's strength in research and teaching on human development, family resource management, family relationships, and community issues.

4. In the Department of Political Studies, 10 courses will be deleted (-51 credit hours) and 10 introduced (+36 credit hours), for a net change of -15 credit hours. Eight of the 10 courses being introduced will effectively replace courses being deleted, with new titles and descriptions. The other 2 courses being introduced (019.7YG International Political Economy and 019.7ZA Contemporary Issues in Canadian Politics) will allow faculty members to offer courses in their area of research interest. Courses to be deleted and not replaced have not been offered for several years and are no longer current with respect to faculty interests.

Recommendation

The SPPC recommends that:

> Senate approve approve the proposed course changes in the Faculty of Graduate Studies.

Respectfully submitted,

Juris P. Svenne, Chair
Senate Planning and Priorities Committee

/jml

Faculty of Human Ecology

Office of the Dean

Room 208 Human Ecology Building
Tel: 474-9704 Fax: 474-7592

Interdepartmental Correspondence

To: Jeff Leclerc, University Secretary

From: Gustaaf Sevenhuysen, Acting Dean, Faculty of Human Ecology

Date: November 26, 2003

Re: Change of Name for Department of Family Studies

Attached please find a proposal to change the name of the Department of Family Studies to the Department of Family Social Sciences. The documentation includes the rationale for the name change and a memo from the Faculty of Arts indicating support for the name change.

This change was approved by Family Studies Department Council on December 5, 2002. It was approved by Human Ecology Faculty Council on May 9, 2003.

We request that this matter be placed on the December 10 agenda of the Executive Committee of Senate for discussion. We would be happy to send a representative to answer questions, if that would be helpful.

Thank you for your assistance.

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

Rationale for a Proposed Departmental Name Change from Family Studies to Family Social Sciences

The Department of Family Studies proposes changing its name to the ***Department of Family Social Sciences***. This new name flows from departmental discussions and decisions over the past several years. Recent changes in the undergraduate and graduate curricula are evidence of the department's reexamination of its purpose and role within the university. We realize that the current name of the department is no longer appropriate for our academic unit; it captures neither the multidisciplinary approach of the department nor the scientific basis of the field. Moreover, it is confused with Family Services and Housing, a department of the Government of Manitoba. Family Social Sciences clearly communicates what we are: a multidisciplinary unit of social scientists united in their focus on generating and transmitting knowledge relating to families and their psychological, social, and economic health.

This multidisciplinary approach is evident in the department's new undergraduate curriculum. Courses are offered in five areas of specialization: aging; child and adolescent development; family, housing, and community studies; family resource management; and family violence and conflict resolution. In each of these areas, students integrate theory and research from a range of social science fields, primarily sociology, psychology, and economics, to gain an understanding of the field.

At the graduate level, we are in the process of restructuring the curriculum to allow students to develop expertise in one of four areas of study: developmental health, family resource management, family violence and conflict resolution, and inner-city families and communities. These areas have their foundations in the social sciences. In our department, they are studied from a multidisciplinary social science perspective. In their thesis work, graduate students apply psychological, economic, and/or sociological theories to address research questions related to family development and health. (See Appendix A for a list of selected thesis titles.)

The faculty in the department are experts in different areas of family social sciences. (See Appendix B for a list of faculty members and their academic backgrounds.) Many are nationally and internationally recognized for their research. We have been trained in different disciplines in the social sciences – economics, sociology, and psychology – but are united by the subject of our enquiry: families. In our teaching and research, we bring theory and methods of research from the social sciences to bear. Members of our department work in areas such as:

- parent-child interaction and the development of shame,
- economic, psychological, and social impacts of women's gambling on families,
- cultural differences in the prevalence of violence against women,
- psychological needs of those dying in personal care homes,
- the impact of social and economic change on rural families,
- psychological and sociological factors contributing to child physical abuse,
- patterns of sibling conflict in violent families,
- work-family balance,
- psychological and social needs of homeless youth, and
- foster parenting of children with Fetal Alcohol Spectrum Disorders.

Research in our department is funded by such agencies as the Social Sciences and Humanities Research Council and the Canadian Institutes of Health Research. Our findings are published in leading social science journals, including *Child Development, Social Development, Family and Economic Issues, Child Abuse and Neglect, and Social Welfare and Family Law*. (See Appendix C for a list of sample publications by faculty in our department.)

Our work is not captured by the current name of our department. Our current name does not convey the theoretical and scientific basis of our field, nor does it communicate the multidisciplinary nature of our work. Our name should accurately represent our academic expertise, our areas of research, and the focus of our undergraduate and graduate curricula. Family Social Sciences captures accurately who we are and the work that we do.

Appendix A
Selected Recent Thesis Titles

Currie, Cheryl	2003	Exposure to Domestic Violence and Animal Cruelty in Children
Enns, Carla	2003	Death Anxiety in Adolescents: The Function of Religiosity and Bereavement
Wingert, Susan	2003	Women's Interaction on an On-Line Bulletin Board for Assisted Reproductive Technology Users: A Qualitative Content Analysis.
Soodeen, Ruth-Ann	2002	The Meaning of Home Care to Older Clients and their Spouses: An Ethnography
Olfrey, Tracie	2002	Formerly Adolescent Motherhood and Child Physical Abuse: The Role of Identity
Wright, Margaret	2001	Internalization and Discipline Practices: Intergenerational Continuity and Change
Morrison, Laura	2001	Understanding Subjective Family Burden in Elder Care
St-Hilaire, Micheline	2001	Visiting as a Way of Being: Experience of Franco-Manitobans Who Visit Family Members in Long-Term Care
Brade, Cassandra	2001	The Relationship Between Participation in Aboriginal Cultural Activities/Languages and Educational Achievement for Native Canadians: An Analysis of the 1991 Aboriginal Peoples Survey
Hartung, Carol	2000	The Relationship Between Attachment Security, Affect Sharing and Joint Attention: A Study of Infant Development Between Fourteen and Eighteen Months
Morga-Haskiewicz, Ales	1999	Step-Mother Responses to Stepsibling Conflicts: Maternal Intervention Strategies and Attribution of Blame
Beauchamp, Michelle	1999	National Comparisons of Euthanasia Opinion Polls
Geddes, Tara	1998	Gender Humor as a Reflection of Attitudes Towards Women and Men
Crichton, Susan	1998	Elder Abuse: A Feminist Perspective

Appendix B
Faculty Members and their Academic Backgrounds

Ruth Berry, Ph.D.
Dr. Berry's work focuses on the financial aspects of family life. Her expertise lies in understanding the lives of consumers who are in financial difficulty. Her current work probes women's experiences with gambling, with the objective of improving support services and treatment for problem gamblers.

John B. Bond, Jr., Ph.D.
Dr. Bond's expertise is in the area of aging. He has been heavily involved in policy development around elder abuse. Most recently, he has conducted research on care for patients dying in personal care homes with the aim of improving care for dying patients through support and education of staff.

Jason Brown, Ph.D.
Dr. Brown has practiced as a psychologist and social worker in an aboriginal community agency, as well as in health, education and correctional settings. He has worked closely with community groups on research used to advocate for improved services. His research interests focus on youth, including street-involved youth and foster parenting of youth who have special needs.

Douglas Brownridge, Ph.D.
Dr. Brownridge focuses his research on violence against women with a particular emphasis on cultural issues. He has studied variations in rates of violence against women in different regions of Canada, as well as among immigrant women from developing countries.

Karen A. Duncan, Ph.D.
Dr. Duncan's research focuses on work-family balance and the economics of family life. She has examined the challenges faced by families in business with particular attention to the "family" contribution to family businesses.

Joan E. Durrant, Ph.D.
Dr. Durrant works in the area of child physical abuse prevention with a focus on parents' approaches to discipline. She has conducted cross-cultural comparisons of parental beliefs about child behaviour and discipline in Sweden and Germany.

Carol D.H. Harvey, Ph.D.
Dr. Harvey is working to understand the lives of couples in which one partner is in the early stages of Alzheimer's Disease, focusing on the experience and point of view of the patient, as well as changes in the spousal relationship. Dr. Harvey also is studying the rewards and challenges experienced by young farmers in work and family life.

Nancy Higgitt, Ph.D.
The focus of Dr. Higgitt's work is on neighbourhoods and communities. She has worked with a downtown church to determine the needs of homeless persons in that area. Recently, she has collaborated with Operation Go Home to examine the facilitators and barriers to the well-being of street-involved youth.

Rosemary S.L. Mills, Ph.D.
Dr. Mills studies the development of healthy versus unhealthy shame. She is investigating parent-child communication patterns and children's interpretations of parents' messages.

Caroline Piotrowski, Ph.D.
Dr. Piotrowski's research focuses on how parents understand and respond to conflict between their children. Her work is aimed at understanding how siblings help each other to cope successfully in the face of family turmoil, or alternatively, how hostility and aggression between siblings can contribute to children's maladjustment.

Appendix C
Sample Publications

Berry, R. E. (2003). Human ecological theory. In *International Encyclopedia of Marriage and Family* (2nd ed., pp. 844-847). New York: Macmillan Reference.

Berry, R. E. (2000). An overview of recent changes in Canada's bankruptcy legislation. *Consumer Interests Annual, 46,* 210 - 211.

Berry, R. E., & McGregor, S. L. T. (1999). Counselling consumer debtors under Canada's Bankruptcy and Insolvency Act. *Osgoode Hall Law Journal, Summer*, 369-385.

McGregor, S .L. T., & **Berry, R. E.** (1999). Changing trends in Canadian bankruptcy demographics: Comparison of 1982 and 1994 national studies. *Insolvency Bulletin, 18,* (4), 37-52.

Dean, M. M., McClement, S., **Bond, J.**, Daeninck, P. J., & Nelson, F. (2002, October). What are the experiences of parents of dying adult children? Abstract of workshop presented at 14th International Congress on Care of the Terminally Ill, Montreal. *Journal of Palliative Care, 18*(3), 214.

Cooper, J.E., **Bond, J.B.**, Rodych, C.L., Petersmeyer, J., & Latter, J. (2002). *Rehabilitation design standards research project.* Final report of project funded by Riverview Health Centre.

Hamel, C.vF., Guse, L. W., Hawranik, P. G., & **Bond, J. B.** (2002). Advance directives and community-dwelling older adults. *Western Journal of Nursing Research, 24*, 143-159.

Bond, J. B., Cuddy, R., Dixon, G. L., Duncan, K. A., & Smith, D. L. (1999). The financial abuse of mentally incompetent older adults: A Canadian study. *Journal of Elder Abuse and Neglect, 11*(4), 23-38.

Crichton, S., **Bond, J. B.**, Harvey, C. D. H., & Ristock, J. (1999). Elder abuse: Feminist and ageist perspectives. *Journal of Elder Abuse and Neglect, 10*, 115-130.

Brown, J. (2003). Challenges facing offenders newly released to the community: A concept map. *Journal of Offender Rehabilitation, 39(1).*

Languedoc, S., & **Brown, J.** (2003). *Reducing family violence in Canadian Aboriginal communities: Development of a comprehensive prevention program.* Ottawa, ON: National Crime Prevention Centre.

Brown, J., & Calder, P. (2002). Needs and challenges of foster parents. *Canadian Social Work, 1*, 125-135.

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Subject: Re: November 26
From: "Ernest Keenes" <keenese@Ms.UManitoba.CA>
Date: Wed, 26 Nov 2003 15:39:38 -0600
To: Joan Durrant <durrant@Ms.UManitoba.CA>

On 19 Nov 2003, at 14:00, Joan Durrant wrote:

> Ernie,
>
> I've just found out that we need to make our submission on our name change to Senate by Nov. 27. I remember that you said that you would let me know right away the results of the Arts Executive Committee meeting, but I wanted to ask if you could do that on Nov. 26. I would greatly appreciate your help.
>
> Thank you.
>
> Joan

Prof. Durrant,
The Arts Executive Committee has just concluded its meeting and there was no objection to the name change from "Department of Family Studies" to "Department of Family Social Sciences". Dean O'Kell has determined that there is no reason to send this further to Faculty Council.
Cheers,
Ernie Keenes

Executive Assistant
Dean of Arts
University of Manitoba
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R3T 5V5
204-474-7876

Report of the Senate Committee on Admissions concerning a proposal from the School of Dental Hygiene to amend the admission criteria for its Special Consideration Category and in the use of an interview in the Regular Applicant Category (2003.11.13)

Preamble

The School of Dental Hygiene Admissions Committee has been very active in the past year investigating the validity of interviews and in the review of the admissions criteria to enable preferential consideration of Manitoba students in response to a request from the Manitoba Dental Association related to the shortage of dental hygienists in the province. The recommendations made by the committee include the elimination of interviews in the Regular Applicant Category and the granting of preference to applicants from Manitoba in the Special Consideration Category and on the alternate list.

Observations

1. Over the past several years, the Manitoba Dental Association has informed the School of Dental Hygiene that an apparent shortage of dental hygienists exists in the province of Manitoba. Although the mandate of the School and the University is to educate dental hygienists for both Manitoba and Canada, no preference has ever been given to Manitobans. Giving priority to Manitobans in some manner would assist the existing provincial needs and address the plea from the employers of the graduates.

2. The Special Consideration Category typically has a number of out-of-province applicants who are foreign trained dentists wishing to be retrained as dental hygienists. The majority of these applicants have families in other provinces and have no intention of staying in Manitoba. If priority is given to Manitobans in this category, six individuals from the province would be selected. The majority of the Manitoba candidates who apply in this category are dental assistants who already have jobs in Manitoba to go back to after graduation, thus directly addressing the shortage issue without affecting the integrity of the Regular Applicant selection process.

3. The alternate list is created after the initial selection process has been completed. Typically, approximately eight to ten individuals are offered positions from this list each year as some of those initially offered positions in the program have chosen other programs. The recommendation that the alternate list be comprised of Manitobans will provide the opportunity for local applicants to secure seats in the program, once again addressing the shortage issue without directly compromising the initial selection process in the Regular Applicant Category.

4. The Faculty of Dentistry has a long history of giving special consideration to Dentistry applicants from the province of Manitoba, allowing them a lower GPA than candidates from other provinces and also giving priority to Manitobans on the alternate list. Although this has not been the case in the School of Dental Hygiene, in order to address the needs of the profession, some special consideration should now be given to Manitobans.

5. The School of Dental Hygiene has been interviewing all applicants to the program since the inception of the program 40 years ago. The interviews are time consuming, and applicant numbers have been rising; securing a team of three interviewers for each applicant interview has proved to be increasingly challenging. Two years ago, the School of Dental Hygiene Admissions Committee began to investigate the actual validity of the interview as an admissions criterion. After completing a retrospective study spanning the last ten years of classes within the school, the investigators found no correlation between the entrance interview and performance in the program. However, a strong correlation between the entrance GPA and the exit GPA was reported. Based on these findings, and since the school attempts to model evidence-based practice, the logical move would be to eliminate the entrance interview.

6. Applicants in the Special Consideration Category are given the opportunity to apply with a lower GPA (2.0) taking other factors into consideration such as previous work experience in the health sciences; references from employers; a personal biographical sketch; and the interview. Since this category was created for those individuals with related life experience who may not be able to compete in the Regular Applicant Category, it would **not** seem prudent to eliminate the interview for individuals in this Special Consideration Category.

Recommendation

The Senate Committee on Admissions recommends that Senate approve changes to the admissions requirements in Dental Hygiene as follows:

1. That priority be given to applicants from Manitoba in the Special Consideration Category and on the alternate list.

2. That interviews be eliminated in the Regular Applicant Category but retained in the Special Applicant Category.

Respectfully submitted,
Dr. D.R. Morphy, Chair,
Senate Committee on Admissions

Terms of reference: Senate Handbook (revised 1992), pp. 10.6-10.8

Report of the Senate Committee on Admissions concerning a proposal to revise the policies governing the assessment of applicants with prior study at community colleges, technical colleges, bible colleges and other accredited colleges for the purposes of admission and transfer credit (2003.11.13)

Preamble

1. Community Colleges

Currently, the regulation states that graduates of ten-month certificate programs with a minimum 2.5 average (grades of "C+" and higher) will be considered for admission as regular students to the University of Manitoba. Admission to a specific faculty or school will be with the consent of the dean or director and will be conditional upon the presence of specific subject fields within the program of studies completed. No advanced credit will be awarded for work completed in a certificate program if it is used as basis of admission.

Graduates of two-year diploma programs with a minimum 2.5 average (grades of "C+" and higher) will be considered for admission as above, and may be granted advanced standing not exceeding the residency policy of the faculty concerned. Students who complete studies in a diploma program with a minimum 2.5 (grades of "C+" and higher) average may use this academic record for admission and/or advanced standing purposes.

Graduates of certificate programs, and students and graduates of diploma programs in other provinces, will be considered on equivalent terms to Manitoba community college students.

2. Bible Colleges

Currently, Policy 427 states that applicants who have completed 30 credit hours or more at an institution which is affiliated with an AUCC member institution, or at an institution which is accredited by the Accrediting Association of Bible Colleges, will be considered for admission if they have a cumulative grade point average of 2.5 or higher in the program of studies. Courses completed at these Bible colleges will be considered for transfer credit in those cases where a minimum grade of C has been attained. The Policy also states that a maximum of 18 credit hours can be transferred for courses in Religious Studies, and that a maximum of 60 credit hours of transfer credit can be allowed in total in these cases. Courses in church education, church administration and pastoral studies, or courses intended to promote a particular doctrinal or denominational allegiance will not normally be recognized for transfer of credit.

Applicants who have completed less than 30 credit hours will be considered for admission on the basis of high school courses and may be eligible for transfer of credit under the conditions stated above. The Policy notes that possible transfer credit is based on a course-by-course evaluation by the academic unit teaching in that discipline and that students from Bible colleges should not be considered as being admitted to a second degree program. Only those courses which are acceptable as transferable to the University of Manitoba may be used to fulfil minimum credit hour and course prerequisite requirements for admission to professional faculties or schools.

Observations

Notwithstanding the completion of a diploma or certificate, transferable courses may be identified in many programs at community, technical, bible and other accredited colleges. Permitting the assessment

of courses for transfer only if a diploma or certificate program has been completed is academically and unnecessarily restrictive.

Recommendations

1. That applicants who have completed courses at a community, technical, bible or other accredited college will be considered for **admission** using the general entrance requirements or mature student status.

2. That **transfer credit** for each individual course from such a college will be evaluated on its own merit by the appropriate University of Manitoba department regardless of whether the student had been in a certificate or diploma program and whether the program had been completed.

3. That **earned grades** (with appropriate conversion as necessary) **will accompany** transferred courses unless otherwise stipulated by individual faculty regulations.

4. That the rules governing the assessment of University of Manitoba/Community College Joint Programs will remain unaltered.

5. That these recommendations **replace previous policies** relating to admission and transfer credit from community, technical, bible and other accredited colleges (excluding Policy 410 relating to Approved Teaching Centres) and that the current 2003-2004 Undergraduate Calendar in Admissions, **Section 4.7 Transfer Students From Community Colleges** and **Section 4.8 Admission of Students from Canadian or U.S. Bible Colleges** be replaced with the following calendar entry.

   Students from Community Colleges, Technical Colleges, Bible Colleges and Other Accredited College Study - Admission and Transfer Credit.

   a. Applicants who have completed less than 24 credit hours of course work and who do not meet either the general university entrance requirements or mature student status will not be considered for admission.

   b. Applicants who have completed at least 24 credit hours of course work will be considered for admission and transfer credit.

   c. Applicants who have completed less than 24 credit hours of course work but who meet either the general university entrance requirements or mature student status will be considered for admission and transfer credit.

   d. Transfer credit for each individual course will be evaluated by the appropriate University of Manitoba department and transfer credit will be granted subject to program applicability.

Respectfully submitted,
Dr. D.R. Morphy, Chair,
Senate Committee on Admissions

Terms of reference: Senate Handbook (revised 1992), pp. 10.6-10.8

Report of the Senate Committee on Admissions concerning a proposal from the Faculty of Pharmacy to revise its admission requirements for its Special Consideration Category (2003.11.13)

Preamble

The Faculty of Pharmacy's Applicant Information Bulletin (page 2, Applicant Categories) currently states the following for admission under the Special Consideration Category:

All applicants considered in this category [as noted below] must have completed and passed the eligibility requirements described elsewhere in the document.

1. Manitobans who apply through Access & Special Pre-Medical Studies Programs (SPSP) of the University of Manitoba;

2. International applicants who are officially sponsored by government agencies (e.g., CIDA) recognized by the University of Manitoba. (It is rarely possible to consider applications from international applicants without such sponsorship.)

A maximum number of two successful applicants will be admitted each year under paragraphs one and two of the Special Consideration Category.

Observation

The Faculty's objective is to address the University's strategic plan with respect to increasing the pool of university graduates of aboriginal ancestry to assure the province's economic, social, and cultural growth.

Recommendation

The Senate Committee on Admissions recommends to Senate that the eligibility criteria for the Special Consideration Category in the Faculty of Pharmacy be revised to state the following (changes are in bold):

All applicants considered in this category must have completed and passed the eligibility requirements described elsewhere in the document [i.e., the Applicant Information Bulletin]. **However, AGPA scores will be assessed on an individual basis for the following categories:**

1. Manitobans who apply through Access & Special Pre-Medical Studies Programs (SPSP) of the University of Manitoba **and Canadian aboriginals who meet the residence requirements of the Faculty of Pharmacy.**

2. International applicants who are officially sponsored by government agencies (e.g., CIDA) recognized by the University of Manitoba. (It is rarely possible to consider applications from international applicants without such sponsorship.)

A maximum number of **five** applicants will be admitted each year under paragraphs one and two of the Special Consideration Category.

Respectfully submitted,
Dr. D.R. Morphy, Chair,
Senate Committee on Admissions

December 1, 2003

REPORT OF THE SENATE COMMITTEE ON ACADEMIC DRESS

Preamble

The Committee on Academic Dress met on December 1, 2003 to consider hood colours for the following degrees:

- Bachelor of Environmental Science
- Bachelor of Environmental Studies
- Bachelor of Arts in Geography
- Bachelor of Science in Geological Sciences

The terms of reference for the Senate Committee on Academic Dress are found in Section 8.10 of the *Senate Handbook*.

Observations

1. The degree, Bachelor of Environmental Science, was approved by Senate at its meeting of December 4, 2002 and the Board of Governors at its meeting of January 28, 2003. The first graduands of this program are expected to graduate in February, 2004. The suggested hood colours were endorsed by the Faculty of Environment Council at its meeting of April 24, 2003.

2. The degree, Bachelor of Environmental Studies, was approved by Senate at its meeting of December 4, 2002 and the Board of Governors at its meeting of January 8, 2003. The first graduands of this program are expected to graduate in February, 2004. The suggested hood colours were endorsed by the Faculty of Environment Council at its meeting of April 24, 2003.

3. The degree, Bachelor of Arts in Geography, was approved by Senate (the transfer of courses and programs offered by the Department of Geography to the Faculty of Environment) at its meeting of December 5, 2001 and by the Board of Governors at its meeting of January 22, 2002. The first graduands of this program are expected to graduate in February, 2004. The suggested hood colours were endorsed by the Faculty of Environment Council at its meeting of November 20, 2003.

4. The degree, Bachelor of Science in Geological Sciences, was approved by Senate (the transfer of courses and programs offered by the Department of Geological Sciences to the Faculty of Environment) at its meeting of December 5, 2001 and by the Board of Governors at its meeting of January 22, 2002. The first graduands of this program are expected to graduate in February, 2004. The suggested hood colours were endorsed by the Faculty of Environment Council at its meeting of November 20, 2003.

Recommendation

The Senate Committee on Academic Dress recommends to Senate:

1. THAT the lining of the hood for the degree, Bachelor of Environmental Science, be Forest Green (Munsell Colour Code 10G 2/6) with a copper braid (Munsell Colour Code 2.5YR 3/8) 5 mm wide, at a distance of 2 cm from the edging.

2. THAT the lining of the hood for the degree, Bachelor of Environmental Studies, be Forest Green (Munsell Colour Code 10G 2/6) with a Sapphire Blue braid (Munsell Colour Code 10B 4/10) 5 mm wide, at a distance of 2 cm from the edging.

3. THAT the lining of the hood for the degree, Bachelor of Arts in Geography, be Forest Green (Munsell Colour Code 10G 2/6) with a Gold-Yellow braid (Munsell Colour Code 10YR 8/12) 5 mm wide, at a distance of 2 cm from the edging.

4. THAT the lining of the hood for the degree, Bachelor of Science in Geological Sciences, be Gold-Yellow (Munsell Colour Code 5Y 8/6) with a Copper braid (Munsell Colour Code 2.5YR 3/8) 5 mm wide, at a distance of 2 cm from the edging.

Respectfully submitted,

Dr. C. Rabinovitch, Chair
Senate Committee on Academic Dress

/lrj