

MEMORIAL UNIVERSITY OF NEWFOUNDLAND  
SENATE

The regular meeting of Senate was held on November 18, 2003, at 4:00 p.m. in Room E5004, Education Building.

26. PRESENT

The President, Dr. E. Simpson, Dr. C. Loomis, Dr. A. Fowler, Professor M. Beaton, Dr. S. Birnie-Lefcovitch, Mr. R. Ellis, Dr. T. Gordon, Dean G. Gorman, Dean R. Gosine, Dean D. Graham, Dr. L. Phillips (on behalf of Dr. L. Hensman), Dean C. Jablonski, Dean R. Lucas, Mrs. M. O'Dea, Dr. P. Fisher (on behalf of Mr. L. O'Reilly), Dean L. Walker, Ms. D. Whalen, Dr. J. Ashton, Dr. D. Buell, Mr. E. Durnford, Captain J. Ennis, Professor M. Hackett, Dr. L. Hermanutz, Dr. S. Kocabiyik, Professor V. Kuester, Dr. D. McKay, Dr. M. Morrow, Dr. M. Mulligan, Dr. F. Murrin, Dr. W. Okshevsky, Dr. D. Peters, Dr. H. Pike, Dr. J. Quaicoe, Dr. V. Richardson, Dr. D. Rideout, Ms. L. Scott, Dr. F. Shahidi, Dr. E. Simms, Dr. M. Skipton, Dr. K. St. John, Professor D. Walsh, Dr. P. Wilson, Dr. S. Wolinetz, Dr. J. Wright, Mr. J. Baker, Ms. K. O'Brien-MacDonald, Mr. S. Sullivan, Mr. M. Byrne, Mr. D. Decker.

27. APOLOGIES FOR ABSENCE

Apologies were received from Dean I. Bowmer, Dr. R. Adamec, Mr. C. Dennis, Dr. J. Harris, Dr. L. Hensman, Dr. D. Neville, Mr. L. O'Reilly, Mr. L. Gaulton.

The Chair opened the meeting by extending a special welcome to Dr. Dennis Peters, the newly elected Senator for Engineering and Applied Science.

28. President's Report 2003 - "Where we are"

At the request of the President and with the concurrence of Senate, it was agreed to change the order of the agenda and place a presentation of the highlights of the recently released President's Report 2003, "Where we are", at the beginning of the agenda. Mr. Ivan Muzychka, University Relations, was in attendance and following a short introduction by the President, Mr. Muzychka presented the report.

President's Report 2003 - "Where we are" (cont'd)

The report, which is available on CD and on the Web as well as in a full colour highlights brochure, contains the university's complete audited financial statements as well as a thorough review of achievements and accomplishments of the last year in the areas of teaching, research and community service. In concluding his presentation, Mr. Muzychka noted that the full President's Report 2002-2003 is available at [www.mun.ca/2003report](http://www.mun.ca/2003report). The President thanked Mr. Muzychka for his presentation, invited feedback from Senators and encouraged everyone to make full use of the Report.

29. MINUTES

The Minutes of the regular meeting held on October 14, 2003, were taken as read and confirmed.

REPORT OF THE EXECUTIVE COMMITTEE OF SENATE

In order to streamline the Senate agenda, a consent agenda has been adopted for less substantive matters, as recommended by the ad hoc Committee on Senate Reform and agreed to by Senate at the 14 October 2003 meeting.

It was agreed by separate motion where necessary, the report of the Executive Committee be approved as follows:

CONSENT AGENDA

It was moved by Dr. Wilson, seconded by Dr. Graham, and carried that the consent agenda, comprising the following items, be approved.

30. Report of the Senate Committee on Undergraduate Studies

30.1 Aboriginal Studies Minor Program

Page 143, 2003-2004 Calendar, under the heading, Programs, Regulations and Course Descriptions, subheading, Aboriginal Studies, subheading, Regulations, amend the first sentence to read as follows:

"Students who minor in Aboriginal Studies ... of the following disciplines: Education, English, History, Law and Society, Linguistics, Social Work, and Sociology (nine credit hours)."

Aboriginal Studies Minor Program (cont'd)

Under the subheading, Course List, immediately preceding the subheading, "Linguistics", insert the following new discipline and course as follows:

**"Law and Society**

LWSO 3012. Aboriginal Peoples: Concepts of Land, the Law and the Constitution."

30.2 Department of Biology

Page 230, 2003-2004 Calendar, under the heading, Course List, add the following new course and course description:

**"4910-4920. Special Topics in Biology.** These courses will be given for senior undergraduates and will be in a two-week format which will involve equivalent instruction time as a course on campus. These courses will cover a range of topics in specialized fields in Biology and may be offered at the Bonne Bay Field Station, at the Harlow campus or elsewhere as appropriate. They may be taught by visiting specialists when available."

30.3 Department of Mathematics and Statistics

Page 246, 2003-2004 Calendar, under the heading, Applied Mathematics Courses, under the course description for 2130. Technical Writing in Mathematics, delete the "NOTE" in its entirety and replace with the following:

*"NOTES:*

*1) First priority for enrolment in this course is given to students who are Applied or Pure Mathematics majors. Other students wishing to register should direct inquiries to the head of department.*

*2) This course qualifies as a Research/Writing course in the Faculty of Arts."*

30.4 School of Nursing

The School of Nursing is proposing changes to its Prior Learning Assessment Policy which was originally approved by Senate in April 2000. A copy of the revised policy is located in the Senate files.

31. Report of the Academic Council of the School of Graduate Studies

31.1 School of Nursing

Page 454, 2003-2004 Calendar, under the heading, Regulations Governing the Degree of Master of Nursing, subheading, D) Programs of Study, under (III) Nurse Practitioner Option, amend clause 1. as follows:

“1. Candidates must complete an approved program of studies consisting of a minimum of 32 credit hours ... .”

32. Report of the Committee on Senate Elections

A memorandum dated 23 October 2003 has been received from the Committee on Senate Elections advising that Dr. Dennis Peters has been elected to the Senate for a term commencing November 1, 2003 and expiring August 31, 2006.

33. Report of the Committee on Honorary Degrees and Ceremonial

A recommendation was received from the Committee on Honorary Degrees and Ceremonial that the colour “umber” be approved for the hood edging colour for the Master of Oil and Gas Studies program.

34. Report of the Committee on Committees

A memorandum dated 21 October 2003 was received from the Committee on Committees recommending that the following appointments to standing committees be approved:

**Planning and Budget Committee**

Krista Park (Graduate Student)

**Committee on Honorary Degrees and Ceremonial**

Stefan Jensen (Graduate Student)

**Committee on the Library**

Jay Fitzsimmons (Graduate Student)

**Committee on Educational Technology**

Shannon Buffett (Graduate Student)

**Committee on the University Bookstore**

Byron Rolls (Graduate Student)

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Report of the Committee on Committees (cont'd)

**Advisory Committee on the University Timetable**

Jonathan Richler (Graduate Student)

**Committee on Copyright**

Stefan Jensen (Graduate Student)

Membership of the ad hoc Committee on Senate Reform

At a meeting held on April 8, 2003, Senate approved the Membership and Terms of Reference for the ad hoc Committee on Senate Reform. At that time, the undergraduate representative had not been determined. Subsequently, at a meeting of Senate held on May 13, 2003, Senate approved the nomination of Ms. Claudia Powell as the student representative on the ad hoc Committee. A memo dated September 17, 2003 has been received from Ms. Powell advising that she will be resigning from the ad hoc Committee on Senate Reform. The Memorial University of Newfoundland Students' Union is now recommending that Ms. Jessica Magalios be the student representative replacing Ms. Powell.

Committee on Committees Membership

A memo dated 29 September 2003 was received from the Graduate Students' Union nominating Charlene Noseworthy as graduate student representative for the Committee on Committees. As well, a memo dated 15 October 2003 was received from the Memorial University of Newfoundland Students' Union nominating June Tavenor as undergraduate student representative for that Committee. Since the Committee on Committees is not involved in the process of recommending membership for any of its members, Mrs. O'Dea submitted this nomination to Senate, recommending its approval.

**REGULAR AGENDA**

- 35. Report of the Senate Committee on Undergraduate Studies
- 35.1 School of Pharmacy

In introducing the School of Pharmacy curriculum proposal, Professor Walsh noted that, as indicated in the Executive Summary submitted with the proposal, the Canadian Council on Accreditation of Pharmacy has identified a need for significant amendments in content, modes of delivery, and methods of evaluation in the Pharmacy program offered at Memorial University. In response to this, the School of Pharmacy has proposed a new program based on a framework of one-pre-pharmacy year and four pharmacy

School of Pharmacy (cont'd)

years (1+4 program). Currently, the School of Pharmacy requires two pre-admission years and three pharmacy years (referred to as the 2+3 program). In September 2004, the School proposes to move to a program with one pre-admission year and four Pharmacy years (referred to as the 1+4 program). Professor Walsh reminded Senate that at a meeting held on 11 February 2003, Senate approved the admission requirements for the 1+4 program. The new curriculum for the 1+4 program will incorporate subject areas not presently offered and eliminate those which contribute minimally to meeting the required outcomes. The last class to be admitted to the 2+3 program will be in September 2004 and the first class to be admitted to the 1+4 program will also be in September 2004. Professor Walsh introduced Dr. Leslie Phillips, who was in attendance on behalf of the Director of the School of Pharmacy, Dr. Linda Hensman, to respond to concerns and questions brought forward by Senate.

The motion to approve the new School of Pharmacy 1+4 Curriculum which was moved by Professor Walsh and seconded by Dr. Phillips, carried.

Dr. McKay expressed a number of concerns regarding the program, including the high number of contact hours, the inclusion of only one English course in the pre-pharmacy years, and the attendance requirement specified for some labs and tutorials but not for others. Dr. Phillips responded to these concerns.

Dr. Simpson pointed out to Senators that in developing the new pharmacy program, the School of Pharmacy had recognized that the old program was out of date and that there were accreditation and licensing issues. The School took the advice of the external accreditation team and the University's academic program review process internally, which confirmed the issues identified by the accreditation team. He noted that the new program is the result of a great deal of hard, effective work that had to be done, and indicated that the recent accreditation review was favorable. Emphasizing the importance of establishing a new pharmacy program, Dr. Simpson noted that there are cost implications associated with the proposed program, for which, as a new program, an appropriate professional program fee may be charged. Alternatively, the government might be persuaded to provide funding analogous to its support for the fast-track Nursing program.

Page 338, 2003-2004 Calendar, under the heading, Regulations, under the subheading, Introduction, delete paragraphs three and four, and the Note immediately following paragraph four, in its entirety, and replace with the following:

School of Pharmacy (cont'd)

“The School of Pharmacy is in a process of changing its curriculum from two pre-pharmacy years and three pharmacy years (2 + 3 program) to one pre-pharmacy year and four pharmacy years (1 + 4 program). The last class to be admitted to the 2 + 3 program will be in September 2004. The first class of the 1 + 4 program will begin in September 2004.

*NOTE: DEGREE REQUIREMENTS FOR THE 2 + 3 PROGRAM MUST BE COMPLETED BY MAY 2008.”*

Under the subheading, Introduction, in the second last paragraph, delete the following sentence in its entirety:

“The first class of the 1 + 4 program will begin in September 2004.”

Page 338, 2003-2004 Calendar, under the heading, Admission to the School of Pharmacy, delete the first paragraph in its entirety.

Delete clause 6) a) in its entirety.

Renumber clause 6) b) to 6) and amend the first paragraph to read as follows:

“6) To be eligible for consideration, an applicant shall have completed a minimum of 30 credit hours ... .”

Under the new clause 6), immediately following the second paragraph, delete the list of courses in its entirety and replace with the following:

- “- Biology 1001, 1002
- Chemistry 1050, 1051; or 1200, 1001
- English 1080; or 1000
- Mathematics 1000, 1001
- Physics 1020, 1021; or 1050, 1054; or 1050, 1061
- Business 2000”

Under the heading, Admission to the School of Pharmacy, delete clause 13 in its entirety and replace with the following:

“Students who have been admitted to the program in the School of Pharmacy will be required to complete structured practice experiences during the Spring Semester or Winter Semester as per the program requirements. While every effort will be made to accommodate students’ requests to complete these in a specific location, a student may be assigned to any participating site within the province of Newfoundland and Labrador. Students are responsible for all travel and accommodation costs associated therewith.

School of Pharmacy (cont'd)

Page 340, 2003-2004 Calendar, under the heading, Program of Studies, renumber clause 2) to clause 2) a).

Under the new clause 2) a), add the following phrase at the beginning of the first sentence:

“For the 2 + 3 program: ”

Immediately following the new clause 2) a), insert the following new clause 2) b):

“2) b) For the 1 + 4 program, all credit and non-credit courses included in the Course List for the First, Second, Third and Fourth Years of Pharmacy Studies. After successful completion of the Fourth Year of Pharmacy Studies, the Committee on Undergraduate Studies may recommend to Council that the degree, Bachelor of Science in Pharmacy, be awarded.”

Page 340, 2003-2004 Calendar, delete the heading, Outline of Studentship Program, and the section in its entirety and replace with the following:

**“STRUCTURED PRACTICE EXPERIENCE (SPE) PROGRAM**

Students will be required to participate in a structured practice experience program in pharmacies in Newfoundland and Labrador and other provinces. Successful completion of this program will be required for a student to be awarded the degree, Bachelor of Science in Pharmacy.”

Page 340, 2003-2004 Calendar, amend the heading to read as follows:

**“COURSE STRUCTURE - BACHELOR OF SCIENCE IN PHARMACY** (for students entering the 2 + 3 program in September 2004)”

Under the subheading, Pharmacy - Year 1, subheading, Spring Semester, delete the course, “Pharmacy 300W” in its entirety and replace with the following:

“Pharmacy 300W (Structured Practice Experience)”

Under the subheading, Pharmacy - Year 1, subheading, Spring Semester, delete the course, “Pharmacy 410W” in its entirety and replace with the following:

“Pharmacy 410W (Structured Practice Experience)”



School of Pharmacy (cont'd)

Under the subheading, Pharmacy - Year 1, subheading, Winter Semester, delete the course, "Pharmacy 500X" in its entirety and replace with the following:

"Pharmacy 500X (Structured Practice Experience)"

Page 341, 2003-2004 Calendar, under the heading, Course Descriptions, delete the word, "Pharmacy", at the beginning of all course numbers.

Delete the following courses in their entirety:

"Biochemistry 3200"

"Business 1000"

"Medicine 4300"

Add the following prerequisite after the course description for 3110:

"Prerequisites: Chemistry 2400 and 2401 or Chemistry 2440"

Add the following prerequisite after the course description for 3111:

"Prerequisites: Pharmacy 3110 or Biochemistry 2101"

Delete the title for course "300W" in its entirety and replace with the following:

**"300W. Structured Practice Experience (S). Non-credit course."**

Delete the title for course "410W" in its entirety and replace with the following:

**"410W. Structured Practice Experience (S). Non-credit course."**

Delete the title for course "500X" in its entirety and replace with the following:

**"500X. Structured Practice Experience (W). (18 cr. hrs.)."**

Amend the last sentence of the course description for course, "500X" to read as follows:

"Students will be evaluated periodically throughout the practice experience and will ... ."

School of Pharmacy (cont'd)

Page 343, 2003-2004 Calendar, immediately following the last entry under Course Description, insert the following new section:

**“COURSE STRUCTURE - BACHELOR OF SCIENCE IN PHARMACY** (for students entering the 1 + 4 program in September 2004 and thereafter).

**PHARMACY - YEAR 1**

**Fall Semester**

Chemistry 2440 (Organic Chemistry)  
Pharmacy 2002 (Physiology and Anatomy I)  
Pharmacy 2101 (Pharmacy Practice I)  
Pharmacy 2150 (Pharmacy Skills)  
Pharmacy 2201 (Pharmaceutics I)  
Psychology 1000  
Elective

**Winter Semester**

Pharmacy 200W (Structured Practice Experience I)  
Pharmacy 2003 (Physiology and Anatomy II)  
Pharmacy 2004 (Introduction to Biochemistry)  
Pharmacy 2102 (Pharmacy Practice II)  
Pharmacy 2151 (Pharmacy Skills)  
Pharmacy 2202 (Pharmaceutics II)  
Pharmacy 2203 (Pharmaceutical Analysis)  
Psychology 1001

**PHARMACY - YEAR 2**

**Fall Semester**

Medicine 4300 (Introduction to Pharmacology)  
Pharmacy 3003 (Pathophysiology)  
Pharmacy 3111 (Metabolism)  
Pharmacy 3150 (Pharmacy Skills)  
Pharmacy 3203 (Medicinal Chemistry I)  
Pharmacy 3205 (Pharmaceutics III)  
Pharmacy 3501 (Pharmacy Research and Evaluation I)

**Winter Semester**

Biochemistry 2600 (Nutrition)  
Pharmacy 301W (Structured Practice Experience II)  
Pharmacy 3009 (Pharmacology)

School of Pharmacy (cont'd)

Pharmacy 3103 (Microbiology)  
Pharmacy 3151 (Pharmacy Skills)  
Pharmacy 3204 (Medicinal Chemistry II)  
Pharmacy 3206 (Pharmacokinetics)  
Pharmacy 3301 (Patient Care I)

**PHARMACY - YEAR 3**

**Fall Semester**

Pharmacy 4008 (Chemotherapy)  
Pharmacy 4401 (Therapeutics I)  
Pharmacy 4501 (Pharmacy Research and Evaluation II)  
Pharmacy 4105 (Immunology)  
Pharmacy 4150 (Pharmacy Skills)  
Pharmacy 4301 (Patient Care II)  
Elective

**Winter Semester**

Pharmacy 402W (Structured Practice Experience III)  
Pharmacy 4151 (Pharmacy Skills)  
Pharmacy 4402 (Therapeutics II)  
Pharmacy 4502 (Pharmacy Research and Evaluation III)  
Pharmacy 4503 (Pharmacy Administration)  
Philosophy 2803  
Elective

**PHARMACY - YEAR 4**

**Fall Semester**

Pharmacy 5150 (Pharmacy Skills)  
Pharmacy 5501 (Pharmacy Research and Evaluation IV)  
Pharmacy 5301 (Clinical Toxicology)  
Pharmacy 5302 (Patient Care III)  
Pharmacy 5303 (Patient Care IV)  
Pharmacy 5401 (Therapeutics III)  
Elective

**Winter Semester**

Pharmacy 500X (Structured Practice Experience IV)

School of Pharmacy (cont'd)

**COURSE DESCRIPTIONS**

**FIRST YEAR OF PHARMACY STUDIES**

*NOTE: WHERE SPECIFIC PREREQUISITES ARE NOT GIVEN, THE COURSES NORMALLY TAKEN TO MEET THE ELIGIBILITY REQUIREMENTS FOR ADMISSION WILL PROVIDE ANY NECESSARY PREREQUISITES.*

**2002. Anatomy and Physiology I (F) (3 cr. hrs.).** This course presents a survey of human anatomy and physiology throughout the lifespan. It includes aspects of cytology and histology that form a foundation for the practice of pharmacy. Special emphasis is given to the skeletal, muscular, nervous and endocrine systems. The course will include both the vocabulary and concepts of anatomy and physiology with the overall goal being the understanding of the interrelationships and integration of all systems from the cell to whole organism.

Lectures: Three hours per week.

Laboratory: Two hours per week. Attendance required.

*NOTE: Credit can be obtained for only one of Pharmacy 2002, Pharmacy 3201 or Nursing 1002.*

**2003. Anatomy and Physiology II (W) (3 cr. hrs.).** This course presents a survey of human anatomy and physiology throughout the lifespan. It includes aspects of cytology and histology that form a foundation for the practice of pharmacy. Special emphasis is given to the endocrine, circulatory, respiratory, urinary, digestive and reproductive systems. The course will include both the vocabulary and concepts of anatomy and physiology with the overall goal being the understanding of the interrelationships and integration of all systems from the cell to whole organism.

Prerequisite: Pharmacy 2002.

Lectures: Three hours per week.

Laboratory: Two hours per week. Attendance required.

*NOTE: Credit may be received for only one of Pharmacy 2003, Pharmacy 3202 or Nursing 1012.*

**2004. Introduction to Biochemistry (F) (3 cr. hrs.).** An introduction to the major organic substances of living organisms, proteins, carbohydrates and lipids: their structure, analysis and biochemical function. Enzymes. Biochemistry of membranes: plasma membrane and specialized intracellular membranes. Biochemistry of selected differentiated cells.

Prerequisites: Chemistry 2400 and 2401 or Chemistry 2440.

Lectures: Three hours per week.

School of Pharmacy (cont'd)

Tutorials: As required.

*NOTE: Credit may be received for only one of Pharmacy 2004, 3110 and Biochemistry 2101.*

**2101. Pharmacy Practice I (F) (3 cr. hrs.).** This course will provide an overview of the Canadian Health Care System, the organization and role of pharmacy and pharmacists in the delivery of health care, and the federal and provincial regulations that govern the practice of pharmacy. An introduction to effective communication strategies in the delivery of pharmaceutical care will be discussed.

Co-requisite: Pharmacy 2150.

Lectures: Three hours per week.

*NOTE: Credit may not be received for both Pharmacy 3011 and Pharmacy 2101.*

**2102. Pharmacy Practice II (W) (2 cr. hrs.).** This course will introduce the student to the basic skills and knowledge of the practice of pharmacy. Students will learn to apply these skills to build an expertise in pharmaceutical care. Emphasis will be placed on communication and patient counselling. Students will learn to apply pharmacy regulations in the dispensing of medications.

Co-requisite: Pharmacy 2151.

Lecture/Seminar: Two hours per week.

Tutorials: Up to two hours per week. Attendance required.

*NOTES:*

- 1) Credit may not be received for both Pharmacy 3004 and Pharmacy 2102.*
- 2) The passing grade in Pharmacy 2102 (Pharmacy Practice II) is 70%, failing which the student may be required to withdraw from the Pharmacy Program.*

**2150. Pharmacy Skills (F) (1 cr. hr.).** This course will provide an introduction to the profession of Pharmacy with emphasis on necessary learning skills and the educational outcomes of the program. Students will begin the development of drug information search skills, computer skills, public speaking and basic interpersonal communications skills necessary in practice of pharmacy. Students will participate in self-directed learning modules in medical terminology and pharmaceutical calculations.

Co-requisite: Pharmacy 2101.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

School of Pharmacy (cont'd)

**2151. Pharmacy Skills (W) (1 cr. hr.).** This course will continue to provide an introduction to the profession of Pharmacy with emphasis on necessary learning skills and the educational outcomes of the program. Students will continue the development of drug information search skills, computer skills, pharmaceutical calculation skills and basic interpersonal communications skills necessary in practice of pharmacy. Basic dispensing skills and the application of the legal framework in which pharmacists practice will be developed.

Prerequisites: Pharmacy 2150 and 2101.

Co-requisite: Pharmacy 2102.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

**2201. Pharmaceutics I (F) (3 cr. hrs.).** This course will provide an insight into a number of physicochemical basics and explain them within a pharmaceutical context. The course provides the basic foundation necessary for the study of pharmaceutical dosage forms, pharmacokinetics and biopharmaceutics.

Prerequisites: Mathematics 1000, 1001 and Chemistry 1050,1051; or 1200, 1001.

Lectures: Three hours per week.

Laboratories: Three hours per week. Attendance required.

*NOTE: Credit may not be received for both Pharmacy 2201 and Pharmacy 3012.*

**2202. Pharmaceutics II (W) (3 cr. hrs.).** This course is designed to provide the student with an understanding of pharmaceutical dosage forms and their applications. It applies the principles taught in Pharmaceutics I to understand the design and components of the different pharmaceutical preparations.

Prerequisite: Pharmacy 2201.

Lectures: Three hours per week.

Laboratories: Three hours per week. Attendance required.

*NOTE: Credit may not be obtained for Pharmacy 2202 and Pharmacy 3005.*

**2203. Pharmaceutical Analysis (W) (2 cr. hrs.).** This course is designed to introduce some important techniques and methods of analysis in pharmaceutical sciences. The laboratory exercises consist of both non-instrumental and instrumental analytical techniques that are widely employed in the analysis of pharmaceuticals.

Prerequisites: Chemistry 1050 and 1051; or 1200, 1001.

Lectures: Two hours per week.

Laboratory: Three hours every other week.

School of Pharmacy (cont'd)

**200W. Structured Practice Experience I (S) (non-credit).** A structured practice experience in community pharmacy after completion of the first year which will provide an opportunity for students to apply their technical skills and introduce them to patient care activities.

Prerequisite: Successful completion of all courses in the 1<sup>st</sup> year of the Pharmacy program.

Practical Experience: Four weeks x thirty-five hours per week in May/June. Attendance required.

**SECOND YEAR OF PHARMACY STUDIES**

*NOTE: WHERE SPECIFIC PREREQUISITES ARE NOT GIVEN, THE COURSES NORMALLY TAKEN TO MEET THE REQUIREMENTS FOR PROMOTION FROM FIRST TO SECOND YEAR WILL PROVIDE ANY NECESSARY PREREQUISITES.*

**3003. Pathophysiology (F) (3 cr. hrs.).** The nature of disease, causes and effects, and alteration in structure and function of cells, inflammation, neoplasia, genetic and chromosomal diseases, healing and repair, stress and disease.

Lectures: Three hours per week.

*NOTE: Credit may not be received for both Pharmacy 3003 and Pharmacy 4004.*

**3009. Pharmacology (W) (3 cr. hrs.).** The course explores topics in general pharmacology including drugs used in the treatment of inflammatory diseases, renal pharmacology, anticoagulant and antithrombotic drugs, antihyperlipidemics, drugs used in the treatment of anemia, and endocrine pharmacology.

Prerequisite: Medicine 4300 (or equivalent).

Lectures: Three hours per week.

*NOTE: Credit may not be received for both Pharmacy 3009 and Pharmacy 4009.*

**3103. Microbiology of Infectious Diseases (W) (3 cr. hrs.).** The various types of micro-organisms (bacterial, viral, parasitic and fungal), the environment in which they are able to multiply and their relationship to human diseases. The classifications of their morphology, mode of reproduction and the metabolic process, the physiological and epidemiological principles of infectious diseases and their manifestations are discussed including the principles of immunization.

Lectures: Three hours per week.

Laboratory: One hour per week.

School of Pharmacy (cont'd)

**3111. General Biochemistry (W) (3 cr. hrs.).** The catabolism of carbohydrates, lipids and amino acids. Mitochondria, chloroplasts and ATP synthesis. Biosynthesis of carbohydrates and lipids. Metabolic specialization of differentiated cells and tissues. Integration of metabolism.

Prerequisite: Pharmacy 2004 or Pharmacy 3110 or Biochemistry 2101.

Lectures: Three hours per week.

Tutorials: As required.

*NOTE: Credit may not be received for both Pharmacy 3111 and Biochemistry 3106.*

**3150. Pharmacy Skills (F) (1 cr. hr.).** This course will continue the development of the learning skills necessary for pharmacy practice in order to meet the educational outcomes for the second year of the pharmacy program. Students will continue to develop skills of drug information, communication, pharmaceutical calculations and sterile product preparation relating to the courses of study in the second year. Students will complete a first aid course.

Co-requisite: All 2<sup>nd</sup> year Fall Semester pharmacy courses.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

**3151. Pharmacy Skills (W) (1 cr. hr.).** This course will continue the development of the learning skills necessary for pharmacy practice in order to meet the educational outcomes for the second year of the pharmacy program. Students will continue to develop skills of drug information, communication and pharmaceutical calculations relating to the courses of study in the second year. Students will participate in practice sessions necessary to develop an understanding of and skills required in clinical kinetics.

Prerequisite: Pharmacy 3150.

Co-requisite: All 2<sup>nd</sup> year Winter Semester pharmacy courses.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

**3203. Medicinal Chemistry I (F) (3 cr. hrs.).** Orientation on medicinally important nuclei and their nomenclature. Principles of drug discovery and development. Relationship between molecular structure and biological action. Molecular modeling. Receptors and drug action. General aspects of drug metabolism. Principles of drug latention and prodrugs. The structures, selected physicochemical properties, mechanism of action, structure-activity relationships, and metabolism of drugs including central nervous system depressants and stimulants, and adrenergic agents. Case-based medicinal chemistry and special assignments are also included.



School of Pharmacy (cont'd)

Prerequisite: Chemistry 2440.

Co-requisites: Medicine 4300 and Pharmacy 3003.

Lectures: Three hours per week.

Tutorials: One hour per week. Attendance required.

*NOTE: Credit may not be received for both Pharmacy 3203 and Pharmacy 4010.*

**3204. Medicinal Chemistry II (W) (3 cr. hrs.).** The structures, selected physicochemical properties, mechanism of action, structure-activity relationships, toxic effects at molecular level, and metabolism of different pharmacological classes of drugs including cholinergic agents, analgetic and anti-inflammatory agents, insuline and oral antidiabetic drugs, steroids and related compounds, antihyperlipidemic agents, histamine and antihistaminic agents, diuretic agents, angiotensin converting enzyme inhibitors and antagonists, and calcium channel blockers. Case-based medicinal chemistry and special assignments are also included.

Prerequisite: Pharmacy 3203.

Co-requisite: Pharmacy 3009.

Lectures: Three hours per week.

Tutorials: 1 hour per week. Attendance required.

*NOTE: Credit may not be received for both Pharmacy 4011 and Pharmacy 3204.*

**3205. Pharmaceutics III (F) (3 cr. hrs.).** The principles governing the development and evaluation of novel delivery systems for drugs including therapeutic proteins and peptides will be discussed. An introduction to the standards of manufacture and practice, design and preparation of sterile dosage forms, including parenteral preparations will be covered. The basic principles of the application of radiation and radioactive compounds in medical diagnosis and therapy, rationale for the use, preparation and quality control of radiopharmaceuticals is also discussed.

Prerequisites: Pharmacy 2201 and Pharmacy 2202.

Lectures: Three hours per week.

*NOTE: Credit may not be received for both Pharmacy 3205 and Pharmacy 5017.*

**3206. Applied Pharmacokinetics (W) (3 cr. hrs.).** An introduction to biopharmaceutical and pharmacokinetic principles used in the selection, dosing, monitoring and evaluation of drug therapy. Application of these principles in evaluating drug literature and developing drug dosage regimens of selected classes of drugs for individual patients will be discussed.

Prerequisites: Medicine 4300 and Pharmacy 2201 and Pharmacy 2202.

Co-requisite: Pharmacy 3009.

School of Pharmacy (cont'd)

Lectures: Three hours per week.

*NOTE: Credit may not be received for both Pharmacy 3206 and Pharmacy 4006.*

**3301. Patient Care I (W) (3 cr. hrs.).** An introductory course in patient care, especially in the areas of self-care and self-treatment and the role of the pharmacist. The regulatory environment of non-prescription products and the prevention and treatment of health conditions amenable to self-management will be discussed.

Prerequisite: Medicine 4300.

Co-requisite: Pharmacy 3009.

Lectures: Three hours per week.

*NOTE: Credit may not be received for both Pharmacy 3301 and Pharmacy 4104.*

**3501. Pharmacy Research and Evaluation I (F) (1 cr. hr.).** This course will introduce students to principle roles of health policy with a special emphasis on pharmaceutical policy and its impact on health professionals, the public and on the delivery of pharmaceutical care.

Prerequisites: Pharmacy 2101 and 2102.

Lectures: One hour per week.

**301W. Structured Practice Experience II (S) (non-credit).** A structured practice experience in hospital pharmacy after completion of the second year which will provide an opportunity for students to apply their technical skills and introduce them to patient care activities.

Prerequisite: Successful completion of all courses in the 2<sup>nd</sup> year of the Pharmacy program.

Practical Experience: Four weeks x thirty-five hours per week in May/June. Attendance required.

**THIRD YEAR OF PHARMACY STUDIES**

*NOTE: WHERE SPECIFIC REQUIREMENTS ARE NOT GIVEN, THE COURSES NORMALLY TAKEN TO MEET THE REQUIREMENTS FOR PROMOTION FROM SECOND TO THIRD YEAR WILL PROVIDE ANY NECESSARY PREREQUISITES.*

School of Pharmacy (cont'd)

**4008. Chemotherapy (F) (2 cr. hrs.).** This course will present the principles of infectious diseases and cancer chemotherapy. Topics to be explored include molecular structure profiles in relation to mechanism of action, drug resistance, and toxicity of antimicrobial, antiviral, and antineoplastic agents. Antimicrobial activity/spectrum of activity of antibacterials, antifungals, antimalarial, antituberculosis, and antiviral/antiretroviral agents will be discussed. The classification and mechanism of action of cancer chemotherapeutic agents will be presented. Pharmacokinetic consideration, adverse effects/toxicity, and drug interactions will be explored for these agents.

Prerequisites: Pharmacy 3203 and 3204, Medicine 4300, Pharmacy 3103, Pharmacy 3009.

Co-requisite: Pharmacy 4105.

Lectures: Two hours per week.

Tutorials: One hour per week.

*NOTE: Credit may not be received for both Pharmacy 4005 and Pharmacy 4008.*

**4105. Immunology (F) (3 cr. hrs.).** Introduction to the molecular and cellular basis of immunity and hypersensitivity. Discussion of the manipulation of the immune system in the management and treatment of disease.

Prerequisites: Pharmacy 3201 and 3202.

Lectures/Tutorials: Three hours per week.

**4150. Pharmacy Skills (F) (1 cr. hr.).** This course will continue the development of the learning skills necessary for pharmacy practice in order to meet the educational outcomes for the third year of the pharmacy program. Students will continue to develop skills of drug information and communication relating to the courses of study in the third year. Students will participate in practice sessions necessary to develop an understanding of and skills required in patient assessment. Students will build on their dispensing and education skills learned in first year through participating in dispensing and interview/counselling sessions in more complex patient situations. Students will learn to appreciate the challenges faced by, and in dealing with special patient populations.

Co-requisite: All 3<sup>rd</sup> year Fall Semester pharmacy courses.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

**4151. Pharmacy Skills (W) (1 cr. hr.).** This course will continue the development of the learning skills necessary for pharmacy practice in order

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to meet the educational outcomes for the third year of the pharmacy program. Students will continue to develop skills of drug information and communication relating to the courses of study in the third year. Students will participate in practice sessions necessary to develop an understanding of and skills required for in-home diagnostic testing. Students will build on their dispensing and education skills learned in first year through participating in dispensing and interview/counselling sessions in more complex patient situations. Students will learn to appreciate the challenges faced by, and in dealing with special patient populations. Health promotion and illness prevention issues will be applied through an interprofessional group project.

Prerequisite: Pharmacy 4150.

Co-requisite: All 3<sup>rd</sup> year Winter Semester pharmacy courses.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

**4301. Patient Care II (F) (1 cr. hr.).** This course will discuss the principles of health promotion and disease prevention and the role of the pharmacist.

Tutorials: One hour per week.

**4401. Therapeutics I (F) (6 cr. hrs.).** This course is part of a series that looks at the therapeutic management of common diseases. Topics include infectious diseases, hematology/oncology, dermatology, and musculoskeletal disorders. For each disease state discussion will center around several key issues including: the establishment of desired therapeutic outcomes; development of appropriate pharmacological and non-pharmacological therapeutic alternatives; factors to be considered to aid in the selection of an individualized therapeutic regimen; and the development of a monitoring plan to evaluate efficacy and safety.

Prerequisites: Medicine 4300, Pharmacy 3009 and 3206.

Co-requisite: Pharmacy 4105.

Lectures: Six hours per week.

Tutorials: Two hours per week. Attendance required.

**4402. Therapeutics II (W) (6 cr. hrs.).** This course is part in a series that looks at the therapeutic management of common diseases. Topics include womens' health, mens' health, gastroenterology, endocrine, neurological, and renal disorders. For each disease state discussion will center around several key issues including: the establishment of desired therapeutic outcomes; development of appropriate pharmacological and non-pharmacological therapeutic alternatives; factors to be considered to aid in the selection of an individualized therapeutic regimen; and the development of a monitoring plan to evaluate efficacy and safety.

School of Pharmacy (cont'd)

Prerequisite: Pharmacy 4401.

Lectures: Six hours per week.

Tutorials: Two hours per week. Attendance required.

**4501. Pharmacy Research and Evaluation II (F) (3 cr. hrs.).** The course will introduce the biostatistical, pharmacoepidemiologic and pharmaco-economic concepts and develop the skills necessary to the practice of research and evaluation methods in applied pharmacy. The understanding of such methods is an important prerequisite in the critical appraisal of the health literature and the undertaking of evidence-based clinical practice.

Prerequisite: Pharmacy 3501.

Lectures: Three hours per week.

**4502. Pharmacy Research and Evaluation III (W) (1 cr. hr.).** This course introduces students to principles of critical appraisal and provides opportunities to apply these principles to critique and evaluate current medical literature. Students will be assigned to a tutorial group, which will meet twice during the semester to critically appraise at least two recently published studies (journal club). Emphasis will be placed on appropriate application of critical appraisal skills and group discussion of impact of study findings on clinical practice. In addition, this course will also discuss drug utilization reviews and evaluations and the role of the pharmacist, as well as adverse drug event reporting and the role of the pharmacist.

Prerequisite: Pharmacy 4501.

Tutorials: One hour per week. Attendance required.

**4503. Pharmacy Administration (W) (3 cr. hrs.).** This course introduces students to the basic principles of management as it relates to pharmacy practice. Topics will include human resources and financial management, marketing, strategic planning and the principles and issues associated with safe and appropriate drug distribution. These will be discussed from both a community and an institutional practice focus.

Lectures: Three hours per week.

**402W. Structured Practice Experience III (S) (non-credit).** A structured practice experience in community pharmacy after completion of the third year which will provide an opportunity for students to apply their technical skills and practise and participate in patient care activities.

Prerequisite: Successful completion of all courses in the 3<sup>rd</sup> year of the Pharmacy program.

Practical Experience: Four weeks x thirty-five hours per week in May/June. Attendance required.

School of Pharmacy (cont'd)

**FOURTH YEAR OF PHARMACY STUDIES**

*NOTE: WHERE SPECIFIC REQUIREMENTS ARE NOT GIVEN, THE COURSES NORMALLY TAKEN TO MEET THE REQUIREMENTS FOR PROMOTION FROM THIRD TO FOURTH YEAR WILL PROVIDE ANY NECESSARY PREREQUISITES.*

**5150. Pharmacy Skills (F) (1 cr. hr.).** This course will continue the development of the learning skills necessary for pharmacy practice. Students will continue to develop skills of drug information and communication relating to the courses of study in the fourth year. Students will participate in discussion sessions relating to current practice issues (e.g., internet pharmacy), ethical issues in practice. Students will also complete a basic CPR course.

Co-requisite: All 4<sup>th</sup> year Fall Semester pharmacy courses.

Tutorials: One hour per week.

Practical sessions: Three hours per week. Attendance required.

**5301. Clinical Toxicology (F) (2 cr. hrs.).** This course will cover the toxicology and clinical management of toxicity associated with common medications.

Lectures: Two hours per week.

Co-requisite: Pharmacy 5401.

*NOTE: Credit may not be received for both Pharmacy 5001 and Pharmacy 5301.*

**5302. Patient Care III (F) (3 cr. hrs.).** This course will focus on pharmaceutical care considerations in special patient populations (e.g., geriatrics, neonates, pediatrics, pregnancy and lactation, critically ill, etc.). Implementation of pharmaceutical care in hospital, ambulatory and community practice settings will be discussed.

Lectures: Three hours per week.

Tutorials: One hour per week. Attendance required.

**5303. Patient Care IV (F) (2 cr. hrs.).** This course will provide the student with a basic understanding of herbal products and supplements and will focus on pharmaceutical care considerations in using these products for the therapeutic management of common diseases.

Lectures: Two hours per week.

Tutorials: Two hours per week. Attendance required.

School of Pharmacy (cont'd)

**5401. Therapeutics III (F) (6 cr. hrs.).** This course is part in a series that looks at the therapeutic management of common diseases. Topics include transplantation, psychiatric, respiratory and cardiovascular disorders. For each disease state discussion will center around several key issues including: the establishment of desired therapeutic outcomes; development of appropriate pharmacological and non-pharmacological therapeutic alternatives; factors to be considered to aid in the selection of an individualized therapeutic regimen; and the development of a monitoring plan to evaluate efficacy and safety.

Prerequisite: Pharmacy 4402.

Lectures: Six hours per week.

Tutorials: Two hours per week.

**5501. Pharmacy Research and Evaluation IV (F) (1 cr. hr.).** This course discusses the principles of critical appraisal and provides opportunities to apply these principles to critique and evaluate current medical literature. Students will be assigned to a tutorial group, which will meet twice during the semester to critically appraise at least two recently published studies. Emphasis will be placed on appropriate application of critical appraisal skills and group discussion of impact of study findings on clinical practice.

Prerequisite: Pharmacy 4502.

Tutorials: One hour per week.

**500X. Structured Practice Experience IV (W) (18 cr. hrs.).** A structured practice experience in an institutional setting during the Winter Semester of the 4<sup>th</sup> pharmacy year. Students will participate as members of the health care team and will be responsible for providing pharmaceutical care to patients. Activities will include attending patient care rounds, providing in-services and drug information, and participating in case presentations.

Prerequisite: Successful completion of all course requirements for the degree, pass in all courses in the Fall Semester of the final year and attainment of an overall average of 65% in these courses.

Two six week modules, thirty-five hours per week. Attendance required.”

35.2 Bridging Program at the St. John's Campus in December 2003

A memorandum dated 24 October 2003 was received from the Acting Secretary of the Senate Committee on Undergraduate Studies advising that a proposal from the Division of Lifelong Learning to offer a Bridging Programme in December 2003 at the St. John's Campus has been approved by the Committee for further consideration of Senate. The Director of the Division of Lifelong Learning, Ms. Doreen Whalen, has advised that the program is being offered in December to accommodate the unmet demand

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Bridging Program at the St. John's Campus in December 2003 (cont'd)

from the Summer 2003 offering, and will be the same as the Summer Bridging program originally approved by Senate at a meeting held on 13 May 2003.

It was moved by Professor Walsh, seconded by Ms. Whalen, and carried that approval be granted to offer the Bridging Programme during December 2003 at the St. John's campus.

36. Report of the Committee on Educational Technology

Dr. Elizabeth Murphy, Chair of the Committee on Educational Technology, presented the annual report of the Committee, noting that the Terms of Reference require the Committee to present an annual report. The report was received and accepted by Senate. A copy is retained in the Senate files.

37. Remarks from the Chair - Questions/Comments from Senators

The following is a summary of the remarks made by the Chair:

- On October 14, 2003, the Library held a showcase event, *the Library of the Future*. The President thanked Mr. Ellis and his staff for holding such a successful event.
- A well-attended Alumni Tribute was held on October 16, 2003. Recipients of the five awards given at the event were The Honourable T. Alexander Hickman, Mr. Stephen Kent, Lieutenant General Rick Hillier, Major Dr. G. Dawn Howse and Mr. Wayne Thistle.
- Convocation was held on October 17, 2003. The Honorary Doctorate recipients were John Bruton - Doctor of Laws and Natalie Zemon Davis - Doctor of Letters.
- On October 24, 2003, the President hosted the annual "President's Awards Luncheon and Reception" where five employees of Memorial University were recognized for their outstanding service and significant contributions to the University community.
- The President noted that on October 28, 2003, he spoke at a Autism Society function which marked a partnering agreement of Memorial University with the Autism Society. The University will lease the Shamrock Farm property to the Society to establish a teaching and community centre for people with autism.



Remarks from the Chair - Questions/Comments from Senators (cont'd)

- In early November, the President attended a Memorial Alumni and friends event held in London, England and noted that the keynote speaker was Sir Howard Davis, Director of the London School of Economics, and former Governor of the Bank of England.
- On November 7, 2003, Memorial University co-hosted, with CBC, a reception for the Massey Lecture, given by Thomas King, well recognized author on aboriginal issues. The event, the second of a five-part series, was held in the Faculty of Medicine's main auditorium.
- The President attended the Remembrance Day Ceremony held on November 11, 2003.
- On November 13, 2003, the President appeared on the local Channel 9 television show "Out of the Fog" and spoke about the recent release of the President's Report, 2003.
- A luncheon for new faculty members and their families was held on November 16, 2003, in the University Club. The President extended his thanks to the faculty for assisting with the welcome and the integration of new faculty and their families to the University.
- The President noted the importance of continuing to build new relationships with the new government. He noted the complete change in Ministers, as well as many other MHA's, and also noted the importance of providing information about the University to elected officials.
- The President announced that Petro-Canada will be making a gift to Memorial University on November 19, 2003.
- On November 20, 2003, David Dodge, Governor of the Bank of Canada will deliver a public lecture at Memorial University entitled "Low, Stable and Predictable Inflation and the Performance of Canadian Labour Markets."

38. ITEMS FOR INFORMATION

The Executive Committee denied the following appeal:

Student No. 9924978 - Appeal to rewrite Work Report for Work Term 3 and be promoted to Academic Term 7 in the Fall Semester 2003.

39. ADJOURNMENT

The meeting adjourned at 5:10 p.m.

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CHAIRMAN

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ACTING SECRETARY