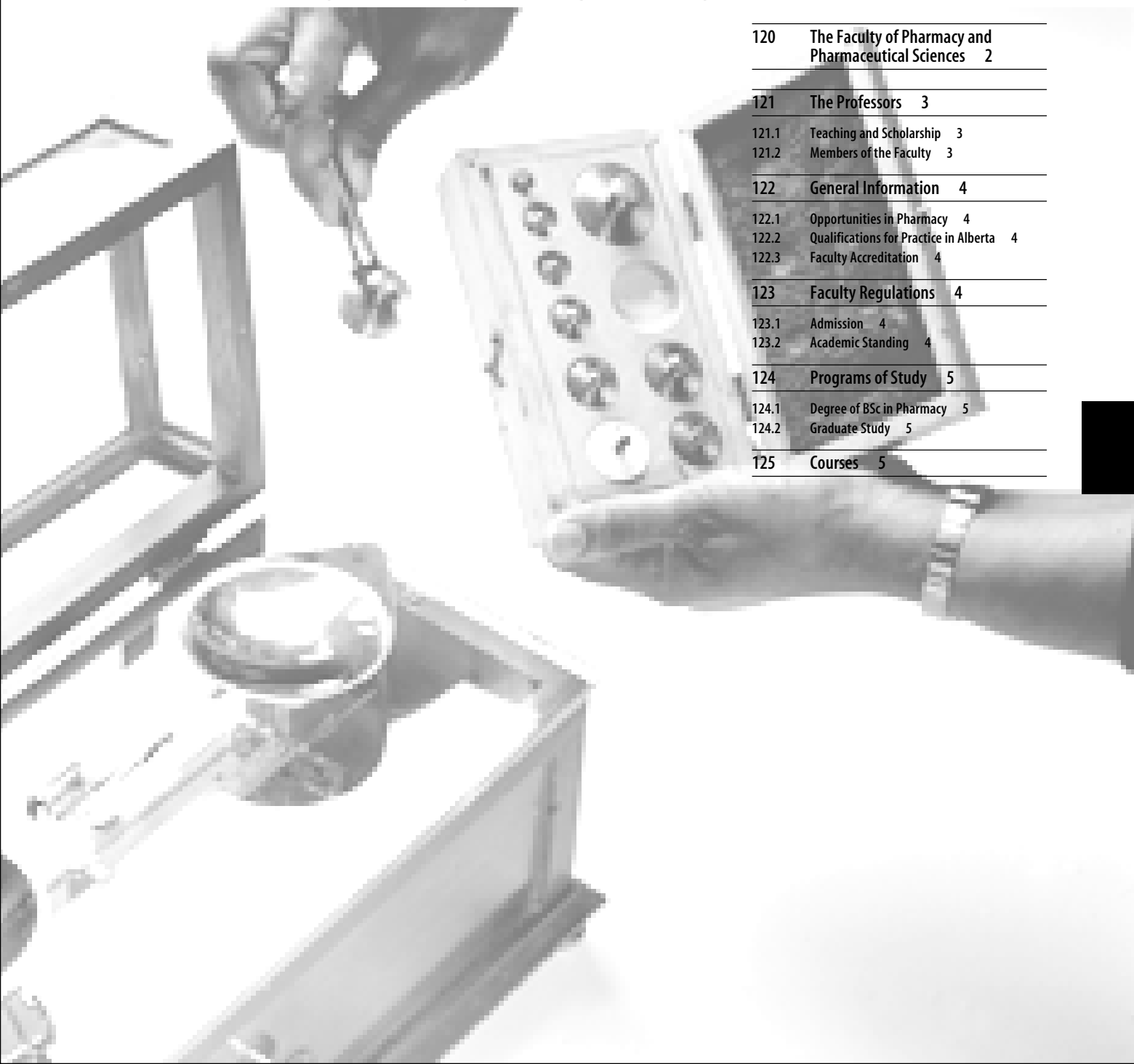
UNIVERSITY OF Alberta

Faculty of Pharmacy and Pharmaceutical Sciences



120 The Faculty of Pharmacy and Pharmaceutical Sciences 2

121 The Professors 3

121.1 Teaching and Scholarship 3
121.2 Members of the Faculty 3

122 General Information 4

122.1 Opportunities in Pharmacy 4
122.2 Qualifications for Practice in Alberta 4
122.3 Faculty Accreditation 4

123 Faculty Regulations 4

123.1 Admission 4
123.2 Academic Standing 4

124 Programs of Study 5

124.1 Degree of BSc in Pharmacy 5
124.2 Graduate Study 5

125 Courses 5

120 The Faculty of Pharmacy and Pharmaceutical Sciences

The Faculty has a long and proud history of achievement. It began as a Department in the Faculty of Medicine on April 13, 1914. Two programs were offered at that time—one a one-year Licensing Diploma (discontinued in 1918) and a two-year PhmB degree. The Department became a School in 1917 under the Faculty of Arts and Science. The first graduates of the newly approved Bachelor of Science in Pharmacy degree program obtained their degrees in 1921 (three students). They had the unique distinction of being the first in the British Empire to graduate from a four-year degree program in Pharmacy (others at the time were three years in length). Over the next two decades, the School continued to grow and prosper, jurisdiction having been transferred back to the Faculty of Medicine in 1939. The School was granted Faculty status in 1955, and in the 1989-90 academic year, Pharmacy became a five-year program (one-professional year plus four professional years in the Faculty).

Graduate Studies and Research has always been a strength of the Faculty and goes back to its first PhD graduate in 1961. This was the first PhD degree granted by a School or Faculty of Pharmacy in Canada. In recognition of its flourishing Graduate Studies program in the Pharmaceutical Sciences, in 1968 the Faculty was renamed the Faculty of Pharmacy and Pharmaceutical Sciences.

Current enrolment in the Faculty includes 420 undergraduate students, 55 graduate students and 30 teaching and research Faculty members.

The Faculty's mission is to serve the needs of society as they relate to pharmacy and the pharmaceutical sciences through education, research and community service. Its pledge is to carry out that mission based upon the highest national and international standards. The vision of the Faculty is to be recognized as the leader provincially and nationally and as a leader internationally for

- The quality and success of its programs in pharmaceutical education, including the design of its curriculum and its innovative approaches to teaching at an undergraduate, graduate and postgraduate level; and
- The quality and success of its science-based and practice-related research programs in selected areas of the pharmaceutical sciences and of pharmacy practice.

121 The Professors

121.1 Teaching and Scholarship

The Faculty's undergraduate program is fully accredited by the Canadian Council for Accreditation of Pharmacy programs in Canada. Its Graduate Studies and Research programs have been ranked by an External Review Committee as being in the top 10% in North America and in the top two in Canada.

Students of the Faculty continually place first in Canada in the National Pharmacy Examining Board of Canada examinations. In fact, they have held that honor for nine of the past ten years. In five of those nine years, a student from the Faculty won the individual award for the highest achievement in these examinations in all of Canada.

The Faculty's researchers attract from $1.5 to 2 million annually in external research grants and contracts. The Faculty has also excelled in transferring its research technology to the marketplace. Six of the University's biotechnology spin-off companies originated in the Faculty of Pharmacy and Pharmaceutical Sciences. The Faculty is also home to four Research Chairs, the Noujaim Institute for Pharmaceutical Oncology research and to the University's SLOWPOKE nuclear reactor facility.

121.2 Members of the Faculty

Officers of the Faculty

Dean
RE Moskalyk, PhD

Associate Deans
FM Pasutto, PhD
LI Wiebe, PhD

Academic Staff

Professor and Dean
RE Moskalyk, PhD (Medicinal Chemistry)

Professor and Associate Dean, Graduate Studies and Research
LI Wiebe, PhD (Radiopharmaceutical Chemistry)

Professor and Associate Dean, Undergraduate Education
FM Pasutto, PhD (Medicinal Chemistry)

Professors Emeriti
DF Biggs, PhD
LG Chatten, PhD
RT Coutts, PhD, DSc
MJ Huston, PhD
GE Myers, PhD
AA Noujaim, PhD
JA Rogers, PhD
A Shysh, PhD
LG Stephens-Newsham, PhD

Professors
JA Bachynsky, PhD (Pharmacy Administration)
D Feeny, PhD (Merck Frosst Chair) (Pharmaco-economics)
F Jamali, PhD (Pharmacokinetics)
EE Knaus, PhD (Medicinal Chemistry)
MR Suresh, PhD (Biomira Chair) (Immunoconjugates)
YK Tam, PhD (Pharmacokinetics)

Associate Professors
RT Foster, PhD
S McQuarrie, PhD (Radiopharmacy/Bionucleonics)
J Samuel, PhD (Biotechnology)
R Tsuyuki, PharmD, MSc (Clinical Pharmacy)

Assistant Professors
B Amsden, PhD (Pharmaceutics)
KB Farris, PhD (Pharmacy Administration)
J Johnson, PhD (Pharmacoeconomics)
J Mercer, PhD (Radiopharmaceutical Chemistry)
A Shojaei, PhD (Pharmaceutics)
D Wishart, PhD (Bristol-Myers Squibb Chair) (Biotechnology)

Clinical Assistant Professors
M Ackman, PhD
T Birkness, PharmD
E Friesen, PharmD
S Heschuk, MSc
C Hughes, PharmD
D James, PhD
SL Kelcher, BSc
SL Mitchell, MPharm
N Rae, BSc
P Robertson, PhD
N Yuksel, PharmD

Research Associate Professors
C Angelov, DSc (Noujaim Institute)
G Miller, PhD (Noujaim Institute)

Research Assistant Professors
J Diakur, PhD (Noujaim Institute)
B Leveugle, PhD (Noujaim Institute)

Professional Officers
S Babcock, MA, MBA (Executive Assistant to the Dean)
C Cox, BSP, MBA (Clinical Coordinator)
TW Kassian, BSc (Physical Plant)

Community Clerkship Coordinators
B Koshy, BSc
A Troszok, BSc

Director, Outreach Education
T Murzyn, BSP

Associate Academic Staff

Adjunct Members
C Chambers, BSc, MBA
M Daneshtalab, PhD
J Duke, PhD
P Foster, PhD
AV Joshua, PhD
G Kwon, PhD
S Long, BSc, MBA
R Madiyalakan, PhD
B Malcolm, PhD
RG Micetich, PhD
L Poloway, BSc
JR Scott, MSc
T Sykes, PhD
K Thomson, PhD
C Wilgosh, BSc, MBA

Honorary Members
GB Baker, PhD (Professor)
GG Griener, PhD (Assistant Professor)
L Honore, MB, ChB, FRCP, LMCC (Professor)
EG Hunter, PhD (FSO)
K Jewell, BA, MD, FRCP (Professor)
AJ McEwan, MB (Assistant Clinical Professor)
D Rayner, BSc, MD, FRCP (Associate Professor)
H Uludag, PhD (Assistant Professor)
AAC Yeung, MD (Associate Professor)

Additional Members of the Faculty Council

President and Vice Chancellor
R Fraser, PhD

Dean of the Faculty of Medicine and Dentistry
DL Tyrrell, MD

Professors
W Wolodko, PhD (Biochemistry)
MA Pickard, PhD (Biological Sciences)
JC Vederas, PhD (Chemistry)
EG Hunter, PhD (Pharmacology)
C Benishin, PhD. (Physiology)

Representatives
Alberta Pharmaceutical Association
Graduate Students' representative
Undergraduate representative

Registrar of the University
BJ Silzer, MEd

122 General Information

122.1 Opportunities in Pharmacy

Pharmacy has progressed from the compounding and dispensing of drugs to a "knowledge system" about drugs and drug products. Pharmacy practice has increasingly become oriented to the patient and accordingly requires the aspiring pharmacist to possess good communication skills and to be aware of and sensitive to the frequent need for compassion and understanding.

Various career options are open to the pharmacist on graduation and licensure.

Community Practice

Community practice provides the "place of practice" for the majority of pharmacists. It can take many forms, namely, independently owned, a chain, a unit within a department store, or a part of a clinic. It can be large, providing a range of products and services, or small, dealing exclusively in medicines and related supplies. In whatever form, the practice environment of community pharmacy is one where the professional activities of the pharmacist involve direct contact with the client seeking either prescription medication or self-medication products or services. In balancing the commercial and professional aspects of community pharmacy, the pharmacist is accountable for ensuring that the patient properly takes only those medicines essential for the maintenance of health, the prevention of disease, or the rational relief of pain.

Hospital Practice

Hospital pharmacists provide services in complex health care organizations. Traditionally, the pharmacist is responsible for the institutional procurement, preparation, distribution, and control of pharmaceuticals. As a member of a health care team, the pharmacist is also responsible for patient-oriented services such as therapeutic consultations, drug information, and patient counselling and education. Some hospital pharmacists concentrate their practice on areas such as management, clinical services, and drug information. Others find careers as generalists in the country's many small- to medium-sized institutions.

Pharmaceutical Industry

The pharmaceutical industry has taken over the traditional compounding responsibilities on behalf of the practising pharmacist. By freeing the pharmacist from the time constraints of compounding medication, a redirection toward a patient-oriented pharmacy practice is possible.

The pharmacist who chooses the pharmaceutical industry as his or her practice environment identifies with one or more distinct parts of the compounding function: discovery or invention, formulation, ensuring safety, ensuring efficacy, or the actual manufacture of drugs. However, one may alternatively become involved with marketing the product. Opportunities in other areas are often enhanced for graduates who proceed for postgraduate training in one of the pharmaceutical sciences.

Government Regulatory and Association Pharmacy Services

Career opportunities for pharmacists exist in federal and provincial government departments. These opportunities often relate to inspection and analyst functions in the regulatory sense. Each provincial licensing body is staffed by pharmacists involved in regulatory activities, as pharmacy is a self-governing profession.

Education and Research

Graduates may choose a university as their career environment. Normally, training is to the doctoral level, although practising pharmacists in the community, hospitals, associations, and the pharmaceutical industry contribute to specific educational programs.

Opportunities in research can be found in universities, government institutions and private industry. Again, training to the doctoral level is often essential.

Finally, many pharmacists have found greatly expanded career opportunities by adding a law or business degree to their basic degree in pharmacy.

122.2 Qualifications for Practice in Alberta

The Bachelor of Science degree in Pharmacy of the University of Alberta is the minimum academic requirement accepted by the Alberta Pharmaceutical Association for a licence to practise pharmacy in Alberta.

To register as a pharmacist in Alberta, a graduate must also have successfully completed an internship program sponsored and operated by the Alberta Pharmaceutical Association and the qualifying examination administered by the Pharmacy Examining Board of Canada. Information concerning the regulations applying to practical experience in Alberta is available from the Registrar-Treasurer, Alberta Pharmaceutical Association, 7th Floor, 10130-112 Street, Edmonton, AB T5K 2K4. Information concerning the Qualifying Examination may be obtained from the Registrar, Pharmacy Examining Board of Canada, Suite 603, 123 Edward Street, Toronto, ON M5G 1E2.

The regulations governing the practice of pharmacy in the Province of Alberta are set forth in the Alberta Pharmaceutical Profession Act.

122.3 Faculty Accreditation

The BSc (Pharmacy) program at the University of Alberta has been granted Full Accreditation Status by the Canadian Council for Accreditation of Pharmacy Programs for a five-year term, 1996–2001.

123 Faculty Regulations

123.1 Admission

See §§13 and 14 for general admission requirements to the University. Specific admission information for the Bachelor of Science in Pharmacy is set out in §15.12.

123.2 Academic Standing

Academic performance is normally measured by the GPA attained during a Fall/Winter. In this determination, grades of W are ignored throughout, whereas grades of WF are considered to be grades of 1.0. Grades of courses completed during Spring/Summer or grades in courses accepted for transfer credit are not included in the calculation of the GPA for measuring academic performance.

Assessing each student's academic performance will normally occur after the end of the regular academic year, based on work attempted during that year.

Promotion of the student from year to year depends on satisfactory academic performance.

Progression in the program is year by year and not by courses completed. Accordingly, all students in a particular year of the program should be registered in the same five courses in each term. Students are not permitted to register in any core (i.e. non-elective) courses from a particular year of the program until they have satisfactorily completed all the core courses from the previous year of the program.

The GPA, as determined above, places the student in one of the following categories of academic performance:

Satisfactory performance is that which yields a GPA of 5.0 or greater if no course is failed.

Conditional performance is that which yields a GPA of 5.0 or greater but includes one or more failed courses.

Probationary performance is that which yields a GPA of less than 5.0, but not less than 4.5, with or without failed courses.

Unsatisfactory performance is that which yields a GPA of less than 4.5 or less than 5.0 for students in a probationary year.

Promotion to the next year of the program requires satisfactory performance. Promotion is awarded to conditional performance students after they have achieved a passing grade in the failed course or courses.

Probationary Year: A repeat of the year in question is mandatory for all probationary performance students. During this probationary year, the student must repeat all core courses in which (s)he achieved a grade of less than 5. Additional approved non-core courses may be included to make up a normal course load, entirely at the discretion of the student. To clear probation and qualify for promotion, a student must pass all the core courses (s)he repeated and also attain a GPA of at least 5.0 in these required courses.

Required to Withdraw: Students whose performance is unsatisfactory, or who fail to clear probation, are required to withdraw from the program.

Reexamination: See §23.5.5.

First-Class Standing: Awarded to students who achieve a GPA of at least 7.5 during a Fall/Winter if they have taken ★30 in that Fall/Winter.

The notation "With Distinction" is inscribed on the permanent record and graduate parchment if the candidate has obtained a GPA of 7.5 or higher in all courses in the last two years of the program.

Appeals and Grievances: Decisions on academic standing are made by the Faculty Council. Appeals may be made to the Academic Appeals Committee. Certain academic standing decisions made by the Faculty Academic Appeals Committee may be appealed to the General Faculties Council Academic Appeals Committee. Enquiries concerning standing in individual courses should be made to the professor in charge of the course. If the issue is still not resolved, the student may report the matter to the appropriate Associate Dean for enquiry. See §23.8 (Appeals and Grievances) for further information.

The Faculty's regulations governing academic appeals and grade appeals may be obtained in the Dean's Office.

124 Programs of Study

124.1 Degree of BSc in Pharmacy

124.1.1 General Information

The first degree program in Pharmacy is four years.

The courses to be taken in the first three years of the program are fixed and are considered basic to the training of all pharmacists. The fourth year has two required courses to round out the core program. The remainder of the fourth-year course load allows for some specialization.

124.1.2 Program of Courses

	Term 1 hours		Term 2 hours
Year 1			
ANAT 200	3-0-0		–
BIOCH 203 (Introductory Biochemistry I)	3-0-0		–
BIOCH 205 (Introductory Biochemistry II)	–		3-0-0
PHARM 302 (Introduction to the Profession of Pharmacy)	3-4s-0		–
PHARM 303 (Pharmacy Dispensing Procedures and Pharmaceutical Calculations)	–		3-0-3
PHARM 320 (Introduction to Medicinal Chemistry)	3-0-0		3-0-0
PHARM 325 (Introduction to Quantitative Pharmaceutical Analysis)	–		3-0-3
PHYSL 252 (Human Physiology)	3-0-0		3-0-0
	15-4s-0		15-0-6
Year 2			
PMCOL 331 (Pharmacology)	3-0-0		3-0-0
PHARM 340 (Pharmacy Administration)	–		3-2s-0
PHARM 352 (Jurisprudence and Ethics)	3-1s-3		–
PHARM 360 (Pharmaceutics)	3-0-3		3-0-3
PHARM 370 (Medicinal Chemistry)	3-0-0		3-0-0
PHARM 380 (Introduction to Disease Processes)	3-0-0		–
INT D 410 (Interdisciplinary Health Team Development)	–		0-3s-0
	15-1s-6		12-5s-3
Year 3			
PHARM 403 (Toxicity of Drugs and Related Products)	3-3s-0		–
PHARM 404 (Clinical Pharmacy)	3-0-0		–
PHARM 405 (Introduction to Institutional Practice and Patient Counselling with the Emphasis on Non-Prescription Drugs)	3-1s-3		–
PHARM 406 (Monitoring Drug Therapy Based on Patient Interviews, Patient Counselling and Drug Information)	–		3-1s-3
PHARM 415 (Biopharmaceutics and Pharmacokinetics)	3-0-0		–
PHARM 431 (Therapeutics)	3-0-0		3-0-0
PHARM 432 (Antimicrobial Agents and Infectious Diseases)	–		3-2s-0
PHARM 443 (Radiopharmacy I)	–		3-0-0
Option*	–		3-0-0
	15-4s-3		15-3s-3
Year 4			
(Students will be off campus in either the first or second term. Coursework will be completed in the opposite term.)			
PHARM 456 (Clinical Pharmacy Rotations)	12 weeks	or	12 weeks
PHARM 457 (Contemporary Issues in Pharmacy)	1-0-0	or	1-0-0
Specialization Elective**	3-0-0	or	3-0-0
Specialization Elective**	3-0-0	or	3-0-0
Specialization Elective**	3-0-0	or	3-0-0
Option*	3-0-0	or	3-0-0
Option*	3-0-0	or	3-0-0
	16-0-0		16-0-0

***Options**

Options normally are selected from courses offered outside the Faculty of Pharmacy and Pharmaceutical Sciences. These courses allow students to pursue areas of personal interest and promote a liberal education. Students wanting to further develop their intended pattern of specialization may want to select options from the list of pattern-related options provided by the Faculty of Pharmacy and Pharmaceutical Sciences.

Note: Only one junior course from each subject area is permitted. Junior courses are those numbered 199 or lower.

**Specialization electives are available as follows:

(1) **Term 1**: PHARM 458, 460, 461, 489, 494, 498, 561, 570, 575, 593.

(2) **Term 2**: PHARM 481, 483, 484, 489, 493, 498, 565, 586.

It may be necessary to limit enrolment in certain specialization electives.

124.2 Graduate Study

Students may undertake graduate study leading to the degree of MPharm, MSc, or PhD. Any students contemplating such work should discuss their program with the Associate Dean (Graduate Students and Research) of the Faculty of Pharmacy and Pharmaceutical Sciences. They should also familiarize themselves with the admission requirements, regulations, and procedures of the Faculty of Graduate Studies and Research. These may be found in §175, Graduate Programs.

125 Courses

Faculty of Pharmacy and Pharmaceutical Sciences courses can be found in §201, Course Listings, under Pharmacy (PHARM).