

UNIVERSITY COUNCIL
ACADEMIC PROGRAMS COMMITTEE
REQUEST FOR DECISION

PRESENTED BY: Kevin Flynn; Chair, Academic Programs Committee

DATE OF MEETING: December 17, 2015

SUBJECT: Doctor of Pharmacy (Pharm. D.) program

DECISION REQUESTED:

It is recommended:

That Council approve the Doctor of Pharmacy (Pharm. D.) as a replacement program for the Bachelor of Science in Pharmacy (BSP) program in the College of Pharmacy and Nutrition, effective September 2017.

PURPOSE:

The College of Pharmacy and Nutrition is proposing to replace the Bachelor of Science in Pharmacy (BSP) degree program with an entry-to-practice Doctor of Pharmacy (Pharm.D.) degree program. The Pharm.D. is the undergraduate entry-to-practice professional degree in pharmacy now offered at five universities in Canada (of 10 universities offering a Pharmacy program), at all U.S. schools of pharmacy, and in several other countries. The first class of the Pharm.D. program at the University of Saskatchewan will begin their studies in September 2017, and will graduate in June of 2021.

The new Pharm.D. program will prepare graduates who are medication therapy experts and who have the competencies to undertake the new and expanding patient care roles in the Canadian health care system and to collaborate with patients and other health care providers to ensure optimum outcomes of drug therapy for Canadians.

CONTEXT AND BACKGROUND:

The University of Saskatchewan has had a Pharmacy program since 1913. In its more than 100-year timespan, the program has evolved from a 2-year certificate program, to a 4-year direct-entry Bachelor of Science in Pharmacy (B.S.P.) program, and to its current format as a '1+4' B.S.P. program, which requires one year of prerequisites followed by 4 years in the Pharmacy program. The College of Pharmacy and Nutrition is proposing the introduction of the Doctor of Pharmacy (Pharm.D.) program to replace the current Bachelor of Science in Pharmacy (B.S.P.). This undergraduate professional doctoral degree is similar in designation to the Doctor of Medicine (M.D.), Doctor of Veterinary Medicine (D.V.M.), or Juris Doctorate (J.D.) degrees currently offered at the University of Saskatchewan.

The Association of Faculties of Pharmacy of Canada has established a goal that all pharmacy programs in Canada begin offering the Pharm.D. as the first professional degree in pharmacy by 2020. As of 2015, five of the ten relevant schools in Canada now offer only the Pharm.D. as the first professional degree in Pharmacy, and the remaining five schools are in various stages of development of a Pharm.D. program. It is the intent of the College of Pharmacy and Nutrition at the University of Saskatchewan to commence the Pharm.D. program in the fall term of 2017.

The Canadian Council of Accreditation for Pharmacy Programs (CCAPP) has recently released new accreditation standards for undergraduate Pharmacy programs that, while still permitting accreditation of baccalaureate programs, are now based on the Pharm.D. as the first professional degree curriculum structure. It is fully expected that the next revision to the CCAPP accreditation standards will remove its acceptance of the baccalaureate option and require all pharmacy programs in Canada to meet Pharm.D. standards or risk loss of accreditation.

IMPLICATIONS:

Current accreditation standards included increased requirements for interprofessional education and experiential training while retraining a strong foundation in pharmaceutical, clinical, and social/administrative sciences. To incorporate the required experiences, the college is required to change its program from a 1+ 4 program (one year of pre-Pharmacy + 4 years of study in the Pharmacy program) to a 2+4 program (a minimum of 2 years of pre-Pharmacy + 4 years in the Pharmacy program). This structure is consistent with most Canadian and U.S. Pharm.D. programs. The two-year pre-Pharmacy requirement is not expected to seriously impact prospective applicants to the program; approximately 80% of students entering the pharmacy program now have two or more years of post-secondary education.

There will be no duplication of programming for the undergraduate professional degree in pharmacy at the U of S. As the Pharm.D. program is being implemented, the B.S.P. will be phased out. The College will not be offering any opportunities for B.S.P. students to transition into the Pharm.D. program. Students in the B.S.P. program who are unable to complete the program with their cohort will be supported by faculty on a case-by-case basis to complete the B.S.P. After the entry-to-practice Pharm.D. program has been implemented, it is the College's intention to offer a "flexible Pharm.D." program to BSP graduates who wish to achieve the Pharm.D. credential.

Three new faculty positions in the pharmacy practice area will be required for the Pharm.D. program due to increased teaching in this area. Additional term faculty will be needed as the Pharm.D. program is implemented and the B.S.P. program is phased out because of differences in program structure which will require some double-teaching. In addition, some teaching may also be undertaken by pharmacists appointed to positions such as experiential education coordinators, depending on their expertise. Additional experiential learning and administrative support will also be required, particularly during the phasing out of the B.S.P. program.

In introducing the Pharm. D. program, the tuition model is changing from a "per credit unit" based tuition to a program-based tuition. The tuition for the Pharm.D. will be \$17,000, as compared to approximately \$9,700 per year for the current B.S.P.

CONSULTATION:

The College consulted with all departments offering courses that will become prerequisites for the Pharm.D. program. The Dean has been in frequent contact with the Ministries of Health and Advanced Education, personnel in Workforce Planning in the Saskatchewan government, colleagues in health regions, community practice and professional associations, and alumni.

A Notice of Intent was favorably received by the Planning and Priorities Committee of Council on November 3, 2015, and was presented to the Academic Programs Committee at their November 25, 2015 meeting. APC voted unanimously in favour of the new program.

SUMMARY:

Pharmacy practice continues to evolve and pharmacists are expected to be medication therapy experts whose expanded scope of practice includes patient assessment, prescription for common ailments, and injections. It is becoming more and more difficult to continue to add material and practice experience to the already very busy B.S.P. curriculum.

It is expected that the next revision to the accreditation standards for professional degree in Pharmacy, set by the Canadian Council for Accreditation of Pharmacy Programs, will require a Pharm.D. curriculum structure.

The goal of the new Pharm.D. program will be to prepare graduates to have the necessary competencies to undertake the new and expanding patient care roles now demanded of them, and to ensure optimum outcomes of medication therapy.

FURTHER ACTION REQUIRED:

Tuition for this program will require review and approval by the Board of Governors and will be presented at their December 2015 meeting.

The admissions changes will require Senate confirmation and will be presented at their April 2016 meeting.

ATTACHMENTS:

1. Proposal – Introduction of an Entry-to-Practice Doctor of Pharmacy (Pharm.D.) Program

PROPOSAL IDENTIFICATION

Title of proposal: **Introduction of an Entry-to-Practice Doctor of Pharmacy (PharmD) Program**

Degree(s): **Doctor of Pharmacy (PharmD)**

Field(s) of Specialization: Pharmacy

Level(s) of Concentration: NA

Option(s): NA

Degree College: **Pharmacy and Nutrition**

Contact person(s) (name, telephone, fax, e-mail):

Dr. Yvonne Shevchuk
Associate Dean (Academic)
College of Pharmacy and Nutrition
306-966-6330 (phone)
306-966-6377 (fax)
Yvonne.shevchuk@usask.ca

Dr. Kishor Wasan, Dean
College of Pharmacy and Nutrition
306-966-6328 (phone)
306-966-6173 (fax)
Kishor.wasan@usask.ca

Proposed date of implementation: **September 2017**

EXECUTIVE SUMMARY

The College of Pharmacy and Nutrition is proposing to replace the Bachelor of Science in Pharmacy (BSP) degree program with an entry-to-practice Doctor of Pharmacy (PharmD) degree program. The PharmD is the undergraduate entry-to-practice professional degree in pharmacy now offered at five universities in Canada (of 10 universities offering a Pharmacy program), at all U.S. schools of pharmacy, and in several other countries. The first class of the PharmD program at the University of Saskatchewan will begin their studies in September 2017, and will graduate in June of 2021.

The major goal of the new PharmD program is to prepare graduates who are medication therapy experts and who have the competencies to undertake the new and expanding patient care roles in the Canadian health care system and to collaborate with patients and other health care providers to ensure optimum outcomes of drug therapy for Canadians

Development of the program began in 2013 with the formation of a steering committee and working groups. Pharmacy faculty also participated in six 'retreats' in 2013-15 to discuss the program's development at various stages. Highlights of the proposed program include:

- Guiding Principles outline a patient-focussed, fully integrated active learning curriculum,
- The program structure will be a '2+4' program requiring 2 years (60 credit units) of prerequisite courses, including basic and biomedical sciences and electives,
- Selection of candidates for admission will be based on a combination of academic average, a satisfactory score on a test of critical skills, and a satisfactory interview score.
- The program is designed to meet CCAPP accreditation criteria for entry-to-practice PharmD programs,
- The program is designed to meet learning outcomes defined by the Association of Faculties of Pharmacy, and graduates will be able to meet the competencies to enter practice defined by the National Association of Regulatory Authorities,
- Specific learning outcomes were developed for the curriculum, and include detailed outcomes for each 'stream' of knowledge (Pharmacotherapeutics, Practice Skills, Pharmaceutical Sciences, Socio-behavioral and Administrative Sciences),
- The curriculum includes patient contact throughout the program, and integration of material from all pharmacy disciplines,
- The program includes 40 weeks of structured practice experience, with two early 4-week experiences between years 1 and 2 and years 2 and 3, and 32 weeks of advanced practice experience in the final year. Students will experience patient care throughout the program through simulations and weekly practice experiences throughout years 1 to 3; students will also participate in 'service learning' in year 1.

Tuition for the Saskatchewan PharmD program (\$17,000 per year) will be similar to other Canadian entry-to-practice PharmD programs. This level of tuition reflects the significant increase in experiential education and planned changes to course delivery (e.g., use of simulations in professional skills development activities), both of which require investment to develop appropriate resources and experiential sites, including expansion of the preceptor development program.

After the entry-to-practice PharmD program has been implemented, it is the College's intention to offer a 'flexible PharmD' program to BSP graduates who wish to achieve the PharmD credential.

INTRODUCTION and BACKGROUND

The University of Saskatchewan has had a pharmacy program since 1913. In the over 100-year time span from then until today, the program has evolved from a 2-year certificate program, to a 4-year direct entry Bachelor of Science in Pharmacy (BSP) program, and to its current format of a '1+4' BSP program which requires one year of prerequisites, followed by 4 years in the Pharmacy program. Pharmacy graduates from the University of Saskatchewan are well-respected and have had a major impact on the pharmacy and health care needs of people in Saskatchewan, in Canada and in many other areas. Now, as patient care and the health system have evolved, it is time for a further evolution of the pharmacy program to prepare graduates for new roles and to meet the needs of Canadians.

The College of Pharmacy and Nutrition is proposing the introduction of the Doctor of Pharmacy (PharmD) program to replace the current Bachelor of Science in Pharmacy (BSP). The PharmD is the undergraduate entry-to-practice professional degree in pharmacy now offered at several universities in Canada, at all U.S. schools of pharmacy, and in several other countries. This undergraduate professional doctoral degree is similar in designation to the Doctor of Medicine (MD), Doctor of Veterinary Medicine (DVM) or Juris Doctorate (JD) degrees currently offered at the University of Saskatchewan.

The Association of Faculties of Pharmacy of Canada has established a goal of 2020 for all pharmacy programs in Canada to begin offering the PharmD as the first professional degree in pharmacy¹. As of 2015, five of the ten schools in Canada now only offer the PharmD as the first professional degree in pharmacy, and the remaining 5 schools are in various stages of development of their programs. It is the intent of the College of Pharmacy and Nutrition at the University of Saskatchewan to implement the PharmD program in the fall term of 2017.

Preparation for the development and implementation of the PharmD program began in 2012 under the direction of Dean David Hill. A *Pharmacy Curriculum Renewal Steering Committee* was established, with membership from faculty, students, practitioners and external partners. The Committee held a faculty retreat which resulted in the development of a set of 'guiding principles' for the PharmD program (Appendix A). Several student 'town hall' meetings were also held, and consultations with the Government of Saskatchewan ministries of Health and Advanced Education, professional organizations, employer groups and several health regions were initiated. The Planning and Priorities Committee of Council considered our *Notice of Intent* (Appendix B) early in 2014 and gave their approval to proceed with development of a full proposal for the new program.

When Dean Kishor Wasan was appointed in August of 2014, he made the development and implementation of the PharmD program a priority, and development activities intensified. To accomplish the development of the program, the following have occurred:

- Faculty held 6 'retreats' (7 days) in the past 11 months,
- A consultant familiar with pharmacy education and curricula (L Suveges) was hired,
- Various working groups of faculty, students and preceptors worked diligently to write learning outcomes and identify knowledge areas,
- A curriculum framework was developed, including recommendations for prerequisite coursework and other admission criteria,

¹ http://afpc.info/sites/default/files/AFPC_ADPC_PharmD_Position_Statement_Resolution_Sept_2010.pdf

- College representatives consulted with other University departments and units about prerequisites (Biochemistry, Chemistry, Mathematics and Statistics, Nutrition, Physiology, Microbiology), proposed content changes (Pharmacology and Pathology), and requirements for the program (Library, ICT, FMD, FSD),
- The Dean and other College representatives have held frequent consultations with community pharmacy partners and health regions, government departments, alumni, and professional associations, and
- Staff established a website and blog to disseminate information about the new program, and to provide a forum for interested individuals (mainly alumni) to communicate with the College.

During this process, faculty were ably assisted by Susan Bens from the Gwenna Moss Centre for Teaching Effectiveness (GMTCE). Funds were also received from the Curriculum Innovation Fund to provide for the secondment of Shauna Gerwing to assist with work on the development of the PharmD program.

RATIONALE

This statement should include information about program objectives, need for the program, demand, uniqueness, student outcomes including employment or academic opportunities, and the expertise of the sponsoring unit. Please specify how this proposal relates to department/college plans and to Systematic Program Review or other review recommendations.

The primary motivation for developing the PharmD program is connected to the significant changes in the nature of pharmacy practice and the increasing complexity of pharmaceuticals that have been introduced since the original BSP curriculum at the University of Saskatchewan was put in place in the late 1940's, and more recently, since the last major curriculum revisions were made in the early 2000's.

Quite simply, the explosive growth of the modern era of pharmaceutical development in the last quarter of the 20th century, the refinement of contemporary practice skills and societal expectations for pharmacists, and Canadian health care system challenges with respect to the safe and effective use of medications have created conditions for pharmacy graduates entering practice that can no longer be met with a baccalaureate curriculum structure. The principal objectives for the new PharmD curriculum in its replacement of the present BSP program therefore, will be the following:

- To educate students who are skilled in the safe and effective use of pharmaceuticals with increasingly complex characteristics related to their indication for use; pharmacology; administration, distribution, metabolism, and excretion; and dosage form and delivery technology,
- To prepare graduates who are medication therapy experts and who have the competencies to undertake the new and expanding patient care roles in the Canadian health care system that are now required of pharmacists as a result of greatly enhanced legislated scope of practice changes^{2,3,4} and to collaborate with patients and other health care providers to ensure optimum outcomes of drug therapy for Canadians,

² Chart of Expanded Scope of Practice: http://199.103.61.199/docs/resource-items/expandedscopechart_june2015_en.pdf

³ Environmental scan: <http://blueprintforpharmacy.ca/docs/kt-tools/environmental-scan---pharmacy-practice-legislation-and-policy-changes-may-2014.pdf>

⁴ Proposed Pan-Canadian Services: http://blueprintforpharmacy.ca/docs/resource-items/hciwg-pharmacy-practice-change-services_cpha_june10-2013final.pdf

- To prepare graduates who are expected to be increasingly accountable for patient outcomes related to medication use in the Canadian health care system – to improve poor patient adherence, to identify preventable adverse drug reactions, to reduce drug-implicated hospitalization, to ensure effective chronic disease management with medications, to increase patient safety, to reduce non-evidence informed prescribing practices, to increase patient convenience and access to pharmacotherapy when care is required, to collaborate more closely with other health professionals in patient care, to be an advocate for patients and to increase taxpayers' value for money in provincial and 3rd party prescription drug insurance benefit programs,
- To ensure that the undergraduate pharmacy program at the University of Saskatchewan continues to meet accreditation requirements for pharmacy programs in Canada. It is expected that the next revision to the accreditation standards for the professional degree in pharmacy set by the Canadian Council for Accreditation of Pharmacy Programs will require a PharmD curriculum structure (accreditation standards for such programs already exist), and
- To provide the opportunity for University of Saskatchewan pharmacy graduates to consider advanced and specialty residency or fellowship training programs in Canada and the US for graduates from PharmD programs.

In addition to these overarching objectives for the replacement of the BSP program with a PharmD structure, the new curriculum redesign process will permit the College to blend traditionally delivered disciplinary subject content into more integrated learning units and modules; to ensure the entire program has a purposeful framework with coherent horizontal and vertical integration of content; to require more self-directed student learning; to introduce more contemporary teaching and learning technologies into the delivery of the program; to identify a number of features for the U of S pharmacy program that will distinguish it from other pharmacy programs in the country, thus permitting the U of S to promote a unique reputational quality; and to introduce other innovations such as changes to the usual timeline sequencing for presentation of subject/content areas in the program (i.e. more therapeutics earlier in the program with complex pharmaceutical sciences content moved to a latter phase), elective options focused on the practice or career interests of students, and the inclusion of a distinctive entrepreneurship philosophy to the program for students intending on practicing in community pharmacy.

The need for greater use of pharmacists' skills in providing health care to Canadians has been previously identified⁵. The 2011 *Blueprint for Pharmacy*⁶ describes the vision of what pharmacists in Canada can and should be doing as members of health care teams and as providers of primary care as: "*optimal drug therapy outcomes for Canadians through patient-centered care.*" All national⁷ and provincial pharmacy associations supported this vision and have been working toward it for the past four years. Recommendations within the *Blueprint* related to pharmacy education include expanded experiential training and interprofessional teamwork opportunities for students and graduates. In addition, the educational outcomes for pharmacy programs in Canada have recently been revised by the Association of Faculties of Pharmacy of Canada (AFPC) to focus on producing graduates who can function as 'medication therapy experts'. At a College faculty retreat in June 2013, our faculty reaffirmed the intent

⁵ Building on Values: The Future of Health Care in Canada, R. Romanow, accessed October 7, 2015 at: <http://publications.gc.ca/collections/Collection/CP32-85-2002E.pdf>

⁶ See (accessed October 7, 2015): <http://www.blueprintforpharmacy.ca/> and <http://blueprintforpharmacy.ca/docs/pdfs/blueprint-priorities---our-way-forward-2013---june-2013.pdf>

⁷ Canadian Pharmacists Association Position Paper on PharmD (accessed October 7, 2015): <http://www.pharmacists.ca/cpha-ca/assets/File/cpha-on-the-issues/PharmD%20Entry%20Level.pdf>

outlined in the College's contribution to the University's 3rd Integrated Plan (*Promise and Potential*) to develop a PharmD program based on these educational outcomes.⁸

The *Blueprint Vision for Pharmacy* and its recommendations also align well with the four pillars of the Saskatchewan Ministry of Health's strategic plan: better care, better teams, better value, and better health. All of these factors have stimulated the desire by the pharmacy faculty to review and redesign the undergraduate pharmacy curriculum to ensure our graduates are able to work with patients for better health care outcomes now and in the future.

Accreditation

The site visit team for the College's most recent (2012) accreditation by the Canadian Council of Accreditation for Pharmacy Programs (CCAPP) indicated that our current pharmacy program is solid but in need of a major update to align it with educational and training needs of pharmacy graduates to meet current patient care responsibilities for pharmacists. CCAPP has recently released new accreditation standards for undergraduate pharmacy programs that, while still permitting accreditation of baccalaureate programs, are now based on the PharmD as the first professional degree curriculum structure. It is fully expected that the next revision to the CCAPP accreditation standards will remove its acceptance of the baccalaureate option and require all pharmacy programs in Canada to meet these standards at the PharmD level or risk loss of accreditation.

The current accreditation standards include increased requirements for interprofessional education and experiential training than that presently provided in the BSP program, especially in the final year. The accreditation standards also require programs to retain a strong foundation in pharmaceutical, clinical, and social/administrative sciences that limits the College's options to reduce curricular emphasis in these areas in order to provide additional time for experiential training. Therefore, to incorporate the required experiences, our program will need to have a major re-organization. The College feels the best way to accomplish this is to change the program from a 1 (pre-pharmacy) + 4 year program into a minimum of a 2 year (pre-pharmacy) + 4 year professional program. This is the structure in place for most Canadian and US PharmD programs. The two-year pre-pharmacy requirement is not expected to seriously impact prospective applicants to the program as approximately 80%⁹ of students entering the pharmacy program now have two or more years of postsecondary education.

By requiring students to complete foundational courses (e.g., biomedical sciences and other introductory courses) before entry into the pharmacy program, we can fully develop students' knowledge, skills and abilities with three years of coursework in the other pharmacy specific required curricular areas prior to a full year (32 weeks) of advanced experiential training in year 4 (currently 15 weeks in term 2 of year 4).

With this expansion in experiential training, students will have more sustained time to develop the judgement, confidence and proficiency necessary to be more competent care providers at the completion of the program, and to also consider opportunities to engage in various types of practice beyond the current clerkship selections in traditional community and hospital practices. These innovative or specialty experiences may include clinical rotations with primary care teams, providing

⁸ <http://afpc.info/sites/default/files/AFPC%20Educational%20Outcomes.pdf>

⁹ Average of years 2013-15 (2013: 80%, 2014: 79%, 2015: 81%)

pharmacy services in rural and remote areas of the province, international health care placements, or working on health promotion/disease prevention projects.

Demand for the Program

The current pharmacy program receives an average of 550¹⁰ applications each year for 90 positions in the admission class. This figure has been constant over the past 10 years, and we do not anticipate any change in demand. National and provincial employment data indicate the supply and demand for pharmacists is a stable market where the demand for pharmacists is largely determined by national population changes, age demographics, and the number of prescriptions consumed.

The need for pharmacists to fill vacant positions is somewhat less acute than a few years ago when serious shortages were apparent. Interestingly, Canada still licenses a large number of international pharmacy graduates (IPGs) equal to the number of pharmacists graduating from Canadian universities each year. The need is still great in rural and remote areas, including parts of Saskatchewan and in hospitals¹¹.

The College's quota of 90 entering students was found to be the 'right size' for our program during Workforce Planning discussions with the Saskatchewan Ministry of Health. To ensure the health human resource for pharmacists in Canada has remained in balance over the past ten years, class size increases have occurred in the pharmacy programs at UBC, Toronto, Montreal and Memorial. A new pharmacy school opened during this period at Waterloo. No further class size increases are expected at any of the other universities (including Saskatchewan) in the foreseeable future.

During the past 3-4 years, the College has noted a 'buzz' among current students and students applying for admission – they are aware of the proposed change to the PharmD degree, and some have expressed interest in attaining the degree, either by waiting to apply in 2017, or by completing additional training after graduation. Some indicate they will apply to schools currently offering the PharmD rather than applying to U of S. At a recent 'town hall' meeting with students, much discussion surrounded the need for a program (e.g., through distance education) to be developed concurrently with the new 'in class' program whereby recent graduates and existing pharmacists in the province can also earn the PharmD credential. There appears to be substantial interest from practitioners in the province and recent graduates working elsewhere for a 'flexible' PharmD program where they can achieve the PharmD credential while continuing to work.

As mentioned earlier, all pharmacy programs in Canada are in various stages of active planning for implementation of PharmD programs (Table 1). If the University of Saskatchewan delays offering the degree (i.e. later than our U15 competitor pharmacy schools), we may see a drop in applications as students go elsewhere to attain the credential.

¹⁰ Average of 2007-2015 application numbers

¹¹ Personal communication, Andy Churko, Director, Workforce Planning, Saskatchewan Ministry of Health

Table 1: Doctor of Pharmacy (PharmD) Programs in Canada

Faculty/School of Pharmacy	PharmD Implemented	Proposed Implementation
British Columbia	2015	
Alberta		2017
Saskatchewan		2017
Manitoba		? unknown
Toronto	2011	
Waterloo	2011	
Montreal	2007	
Laval	2009	
Dalhousie		2017
Memorial		2017

A reduction in numbers of applicants may also mean that the ‘pool’ of applicants will contain fewer numbers of students with high academic standing because they will be accepted elsewhere, requiring the U of S to consider lower admission standards to fill the 90 seats. A drop in the number of graduates or a reduction in quality would also impact the quality of health care provided by pharmacists in the province because 91% of the practising pharmacists in Saskatchewan are graduates of the U of S program¹².

In addition to the documentation required by University Council concerning the background rationale for the proposed new PharmD program, the structure of its curriculum, evidence of internal and external support from relevant stakeholder consultations, and confirmation of the resources that will be necessary to implement and deliver the new program, the College will also share documentation with the Government of Saskatchewan ministries of Advanced Education and Health for information and feedback. Senior representatives of the College’s project team for the new curriculum have had regular meetings with representatives from the two ministries to keep them apprised of the development of the PharmD program.

Relationship to the College Plan and Planning Parameters

The development of the PharmD program as the entry-to-practice credential was outlined in the College’s strategic plan and was referenced in the University’s 3rd integrated plan¹³. The implementation of this degree program is essential for the University of Saskatchewan to maintain full accreditation of the undergraduate pharmacy program, and to graduate pharmacists able to offer optimum pharmacy care to the citizens of Saskatchewan.

As noted in the College of Pharmacy and Nutrition’s strategic plan, the implementation of a new PharmD program will also support the University’s goal for innovation in academic programs by increasing delivery of innovative experiential, interprofessional and student-oriented/driven components (such as distance learning) of the pharmacy degree program and aligning our program with directions and practice competencies for the profession of pharmacy.

¹² Personal communication, J. Eriksen, Assistant Registrar, Saskatchewan College of Pharmacy Professionals, October 6, 2015.

¹³ <http://www.usask.ca/pharmacy-nutrition/documents/Strategic%20Plan%20Pharmacy%20and%20Nutrition%202012-16.pdf>

Along with expansion of training in cultural competency, it is expected that the program will incorporate additional opportunities for students to participate in experiential training outside Canada and to maintain service learning with diverse communities. This initiative will also support the University's goal for aboriginal engagement by increasing curricular content of First Nations, Métis and Inuit cultures and health in the undergraduate pharmacy program.

Uniqueness

The Pharmacy program at the University of Saskatchewan is the only one in the province. As previously mentioned, 91% of pharmacists practising today in the province are graduates from this program. Each year, the majority of new pharmacists registering for licensure with the Saskatchewan College of Pharmacy Professionals (formerly Saskatchewan College of Pharmacists or SCP) are from the University of Saskatchewan (Table 2).

Table 2: New Pharmacists Registered in Saskatchewan 2010-14¹⁴

Year	U of S Grads	From Other Provinces	International Pharmacy Graduates (IPGs)	Total
2014	74	24	19	117
2013	76	17	9	102
2012	67	23	8	98
2011	70	18	2	90
2010	80	19	0	99

Expertise of Sponsoring Unit

Faculty within the College of Pharmacy and Nutrition continually update curriculum content of the BSP program to ensure it is current and relevant. Many faculty are leaders in their field with respect to content areas (examples: Dr. D. Jorgenson in pharmaceutical care, Dr. J. Perepelkin in entrepreneurship, Dr. D. Blackburn in adherence, Dr. J. Taylor in self-care) and have been recognized nationally. Faculty are also involved in practice change locally. Therefore, faculty within the College of Pharmacy and Nutrition remain the appropriate experts in the province and nationally to determine curricular content for the PharmD program. With respect to curriculum design, we have used the expertise of Susan Bens from the Gwenna Moss Centre as well as the College's own recent hire in Assessment and Evaluation (Stephanie Mullhal) throughout the process.

¹⁴ Data from SCP Annual Reports found at: <http://scp.in1touch.org/client/document/documents.html?accountId=58&categoryId=50>

DESCRIPTION OF PROGRAM CHARACTERISTICS

Please include a complete draft Calendar entry. In particular, please indicate if a template is already in place for such a program (for example, if it follows the general requirements and standards of B.Sc. programs) or if new standards are being introduced for this program. When existing courses are listed, please include the course title as well as the course number.

Guiding Principles

In June 2013, faculty developed *Guiding Principles for the PharmD Program at the University of Saskatchewan* (Appendix A). Highlights of these principles include:

- Graduates will be **medication therapy experts**,
- Students will experience interaction with patients throughout the program, moving from simple to complex patient care examples,
- Knowledge-based material will be integrated (e.g., pharmaceutical sciences and pharmacotherapeutics), and
- Curriculum delivery will be learner-centred.

Admission Requirements: Proposed Prerequisite Coursework

The current BSP program requires 30 CU (one year) of pre-pharmacy coursework prior to admission. This means that some basic science and biomedical science courses must be included in the 4-year Pharmacy program to provide students with the appropriate background knowledge (e.g., human physiology, biochemistry, organic chemistry) for pharmacy coursework. However, this also limits the time available for students to assimilate knowledge and to practice the skills now required for them to practice as medication therapy experts. Consequently, the PharmD program moves these biomedical and basic science courses into a pre-pharmacy requirement of 60 CU (2 years) of coursework, taken prior to April 30 of the year admission is desired. The coursework must include 24 credit units taken at least one academic year. The proposed pre-pharmacy requirements are summarized in Table 3.

Table 3: Proposed Pre-Pharmacy Coursework for the PharmD Program

Topic	Credit Units	USask Courses
Biology	6	BIOL 120.3 & 121.3
Chemistry	3 (General) 6 (Organic)	CHEM 112.3 CHEM 250.3 CHEM 255.3
English	6 (English and Composition)	ENG 110.6, or two of 111.3, 112.3, 113.3, 114.3
Biochemistry	3 (Biomolecules) 3 (Metabolism)	BMSC 200.3 BMSC 230.3
Physiology	6 (Human Body Systems)	PHSI 208.6
Mathematics	3 (Calculus)	MATH 125.3
Statistics	3 (Biostatistics)	STAT 246.3
Microbiology	3	BMSC 210.3
Nutrition	3	NUTR 120.3
TOTAL	45	
Electives	15	6 CU from Psych, Soc, NS, Phil 9 CU – any electives
TOTAL	60	

When developing the proposed list of prerequisites, the Admissions and Recruitment Working Group reviewed the prerequisites and determined that “there should be sufficient flexibility in prerequisite courses to:

- allow students to apply to different programs OR apply here from different universities,
- complete an alternate degree if they are not admitted to Pharmacy, or
- transfer courses from other universities.”

This principle was added to the Guiding Principles for the program.

To determine appropriate prerequisite courses, the Working Group reviewed other PharmD programs in Canada and a sample of US PharmD programs, a study undertaken at the University of Alberta¹⁵, and the BMSC 2-year core program requirements. Although other courses were suggested as prerequisites (e.g., introductory economics, bioethics), the working group felt that it would be best to keep the requirements for 6 CU of Social Sciences and Humanities electives from the BSP program, but to allow the remainder of the elective CU to be filled by any other coursework. This will allow students to take science courses or physics, which could be used for admission to other programs.

As shown in Table 4, the recommended prerequisites are similar to other PharmD programs in Canada. If students are considering applying to several PharmD programs and complete their prerequisites elsewhere, they should not have difficulty meeting the prerequisite requirements. At present, we receive approximately 235 applications¹⁶ from nonresidents of Saskatchewan to the BSP program, and we work closely with the Transfer Credit unit to consider coursework from other universities, to determine equivalency and give credit where appropriate. We do not anticipate any difficulty in assessing similar numbers of applications to the PharmD program.

If students complete the PharmD prerequisites and are not accepted into the program, we strongly encourage them to have an alternate degree program in mind. Many choose to enter the U of S BMSC degree program, and they would meet most of the requirements of the BMSC common core platform (Table 5).

All departments affected by the changes in prerequisites are supportive of the proposed changes. Letters of support are provided in Appendix C.

¹⁵ Personal communication, T Schindel, Faculty of Pharmacy, University of Alberta

¹⁶ Average of 2007-2015 applications received

Table 4: Comparison of Canadian PharmD Prerequisites

Pre-Pharmacy Courses	Toronto	British Columbia	Alberta (proposed)	Saskatchewan (proposed)
Biology	6	9	3	6
Biochemistry	3	3	3	6
Chemistry	6	6	6	3
Chemistry, Organic	6	6	6	6
English or Writing	3	6	6	6 (must be Literature and Composition)
Math: Calculus	6	6	3	3
Microbiology	-	3	3	3
Nutrition	-	-	-	3
Physics	6	-	-	-
Physiology	6	-	-	6
Statistics	3	3	3	3
Social Sciences or Humanities	6	6	18	6
Other Electives	9	12	9	9
TOTAL	60 CU	60 CU	60 CU	60 CU

Table 5: Comparison of PharmD Prerequisites with BMSC Core Platform

Course	PharmD Prerequisites	BMSC Core Platform
BIOL 120.3	√	√
BIOL 121.3	√	X
BMSC 200.3	√	√
BMSC 210.3	√	√
BMSC 220.3	X	√
BMSC 230.3	√	√
BMSC 240.3	X	√
PHSI 208.6	√	BMSC/BIOL 224.3
CHEM 112.3	√	√
CHEM 115.3	X	√
CHEM 250.3	√	√
CHEM 255.3	√	X
ENGL 110.6	√	X (could be 6 cu of Type C elective)
MATH 125.3	√	√
STAT 246.3	√	√ (PLSC 314.3)
NUTR 120.3	√	X
PHYS 115.3 & PHSY 117.3	X	√
Electives (type C)	6 CU (Psych, Soc, NS, Phil)	18 CU
Electives (unspecified)	9 CU	X
TOTAL	60 CU	60 CU

Other Admission Requirements

The Admissions and Recruitment Working Group also reviewed other admission requirements and policies for the transition to the PharmD program. Accreditation standards require that other criteria besides an academic average be considered for admission to pharmacy programs. The BSP program has employed a 'test of critical skills (TCS)' (a written, timed essay based on a reading and proposition)

based on the SOLO Taxonomy¹⁷ and a 'personal profile (PP)' (a written response to three interview-type questions) since 1999. Admission scores are calculated using a weighing of 60% academic average, 30% TCS and 10% PP. While the faculty have been pleased with these mechanisms for selection of candidates for admission, the College has received many comments from applicants, parents and pharmacists which suggested some form of personal interview be added to the admission process. Therefore, the Admissions WG conducted a literature review and interviewed personnel from other programs on campus and across Canada about their experience with various interview methods. In particular, the WG reviewed information about the 'multiple mini-interview (MMI)' format that has been adopted by several other Canadian pharmacy programs and by programs in Medicine and Physical Therapy at the U of S. Although there were some reports in the literature describing the MMI process, there was little evidence of its effectiveness in selecting the 'best' candidates (see table in Appendix D). (A recent article in the Pharmacy literature has provided some evidence for support of the MMI process¹⁸.) While all interviewees supported the MMI as 'adding something' to their selection process, they all warned of the expense involved, and the problems of updating the interview situations and assessor burn-out (i.e., it is difficult to attract assessors for the process).

Although there is no strong evidence of effectiveness for the 'personal interview' in an admission process, the WG recognized the need and desire of stakeholders and applicants for some interactive process where candidates could demonstrate their oral communication skills. Therefore, the WG was intrigued by reports of a videotaped interview process where candidates used computer technology to respond to several interview questions posed by a taped interviewer. The WG noted that this process might overcome some of the issues with personal interviews, namely assessor bias and difficulty in standardizing the assessment process. By using a taped interview, we could also overcome the issue of having to have large numbers of candidates and assessors come to one place on one day. Rather, candidates could complete their interview at a convenient time (within a certain time frame) and assessors could also complete assessments when convenient. Videotaping also offers the significant advantage of confirming assessors' work via additional review of tapes to ensure rater reliability. Several firms offer this type of interview process (one is used by the University of Alberta Pharmacy program). After approval by faculty (February 2015), the College's admissions staff have begun working with Kira Academics to pilot this technique for admission to the BSP and BSc (Nutr) programs in 2016. If successful, it will be employed for admission to the PharmD program, and for the Nutrition program.

The WG also reviewed other measures of 'critical skills' but did not find anything that was felt to be better than the current process. Therefore, the WG recommended that we continue to employ the TCS as part of the PharmD admission process.

In summary, using similar weighting as the current BSP program, admission to the PharmD program will be based on:

- academic average
- test of critical skills
- Personal interview.

¹⁷ Biggs, J. and Collis, K.F. (1982). *Evaluating the Quality of Learning: The SOLO Taxonomy (Structure of the Observed Learning Outcome)*. New York: Academic Press.

Biggs, J. and Collis, K.F. (1989). "Toward a Model of School-Based Curriculum Development and Assessment Using the SOLO Taxonomy". *Australian Journal of Education*, 33, 151-163.

¹⁸ <http://www.ajpe.org/doi/pdf/10.5688/ajpe79453>

Program Structure and Learning Outcomes

The Doctor of Pharmacy (PharmD) is an undergraduate professional doctorate degree. As previously discussed, this degree is the new standard for professional education in pharmacy. The curriculum leading to the PharmD is designed to better prepare graduates to be competent and highly skilled medication therapy experts. The proposed program will replace the current Bachelor of Science in Pharmacy (BSP) degree program.

The PharmD **program structure** (Table 6) will include three years of university-based coursework, followed by a final year of advanced practice experiences. Didactic courses will be supported by a series of 'practice skills' courses throughout the program where students can integrate and apply their knowledge to various simulated practice situations. Moving away from the traditional format of individual 'labs' attached to each course, and eliminating some labs altogether, is a significant pedagogical step for faculty. It will require significant work to adapt and integrate activities into this format. However, faculty members generally agree that this is an important step to take, to improve student learning and competency. The College recognizes that faculty development activities will be needed, as well as additional resources for course development. This structure is similar to other PharmD programs in Canada and is designed to meet all accreditation requirements. Therefore, we may also be able to learn from and collaborate with other programs during the implementation phase of the program.

For Years 1, 2 and 3 of the PharmD program, the students in each cohort will be required to participate in developmental programming that focuses on self-regulated learning and career development. This will occur the week prior to Term 1 classes commencing. While PharmD students will typically have more undergraduate experience at admission than the BSP group, the expectations for study in pharmacy and for development as a medication therapy expert will be new.

The program's **learning outcomes** are aligned with the Association of Faculties of Pharmacy (AFPC) *Educational Outcomes for First Professional Degree Programs in Pharmacy in Canada* (2010).¹⁹ In addition, the program will prepare graduates to meet the National Association of Pharmacy Regulatory Authorities (NAPRA) *Professional Competencies for Canadian Pharmacists at Entry to Practice* (March 2014).²⁰

Using both these documents, working groups composed of faculty, students and preceptors developed specific learning outcomes for 'streams' within the PharmD curriculum: Pharmacotherapeutics, Foundational Pharmaceutical Sciences, Behavioral, Social and Administrative Sciences, Pharmacy Practice Skills and Experiential Education. These groups also developed lists of the knowledge areas that are required of pharmacy graduates. Using the defined learning outcomes and knowledge areas, a curriculum framework was drafted (Tables 6 and 7). This framework will serve as the basis for future development of detailed course outlines and teaching materials as faculty prepare for implementation of each year of the program. The process used for program development is summarized in the figure in Appendix E.

¹⁹ <http://afpc.info/sites/default/files/AFPC%20Educational%20Outcomes.pdf> accessed October 7, 2015

²⁰ http://napra.ca/Content_Files/Files/Comp_for_Cdn_PHARMACISTS_at_EntrytoPractice_March2014_b.pdf

Table 6: PharmD Program Overview

	Spring/Summer	Fall	Winter	
Pre 1		Biology, Chemistry, Biochemistry, English, Elective (3 CU Psych, Soc, NS, Phil)	Biology, Organic Chemistry, English, Mathematics, Elective (3 CU Psych, Soc, NS, Phil)	
Pre 2		Physiology, Microbiology, Nutrition, Electives (6 CU any)	Physiology, Organic Chemistry, Statistics, Biochemistry, Elective (3 CU any)	
Y1		Orientation (Bootcamp) Year 1		Interprofessional Education
		Foundational Sciences (Pharmacology and Pathophysiology)		
		Foundational Pharmaceutical Sciences (Pharmaceutics, Medicinal Chemistry, Physical Pharmacy)		
		Behavioral, Social, Administrative Sciences (Introduction to Pharmacy, Law & Ethics)		
		Patient Care Process	Pharmacotherapeutics	
		Self Care Pharmacotherapeutics	Self Care Pharmacotherapeutics	
		Pharmacy Skills Development		
		Introductory Structured Experiential Education		
Y2	Introductory Structured Experiential Education Community Pharmacy Practice(4 weeks)	Orientation (Bootcamp) Year 2	Elective	
		Foundational Sciences)Pharmaceutical Biotechnology, Pharmacokinetics, Pharmaceutics)		
		Evidence-Based Medicine	Behavioral, Social, Administrative Sciences (Management)	
		Patient Care / Pharmacy Practice (includes Communications)		
		Pharmacotherapeutics		
		Pharmacy Skills Development		
		Introductory Structured Experiential Education		
Y3	Introductory Structured Experiential Education Institutional Pharmacy Practice (4 weeks)	Orientation (Bootcamp) Year 3		
		Foundational Sciences (Toxicology, Pharmaceutics)		
		Behavioral, Social, Administrative Sciences (Management, Health Care Issues)		
		Patient Care / Pharmacy Practice (includes Communications)		
		Pharmacotherapeutics		
		Pharmacy Skills Development		
			Capstone (Preparation for Practice)	
		Introductory Structured Experiential Education		
Y4	Advanced Experiential Education (32 weeks over three terms)			
	Integrating Seminar			

Table 7 summarizes the proposed courses and credit units for each course and year. Preliminary course descriptions are included in Appendix F. While we feel that the majority of knowledge areas have been identified, it is expected that there may be minor changes to courses and movement of material within the program, as faculty undertake in-depth course development (January – August 2016) and implementation of the program (September 2017). Complete course outlines and course creation forms will be submitted to the University in the fall of 2016 for inclusion in the 2017-18 Calendar.

Table 7: PharmD Program

Year 1 TERM 1	Year 1 TERM 2
PHAR 190.0: Introduction to the College/Program/Year 1	
PHAR 121.3: Foundational Sciences 1: Foundational Pathophysiology & Pharmacology 1	PHAR 123.3: Foundational Sciences 3: Foundational Pathophysiology & Pharmacology 2
PHAR 122.3: Foundational Sciences 2: Medicinal Chemistry and Physical Pharmacy	PHAR 124.3: Foundational Sciences 4: Introduction to Pharmaceutics
PHAR 151.1: Pharmacotherapy: Foundations and general medicine	PHAR 152.6: Pharmacotherapeutics 1
PHAR 153.3: Self Care I: Non-prescription pharmaceuticals and supplies	PHAR 154.3: Self Care II: Non-prescription Pharmaceuticals and supplies
PHAR 110.3: Introduction to Pharmacy and the Health Care System	PHAR 112.1: Pharmacy Law and Introduction to Ethics
PHAR 162.3: Pharmacy Practice 1: The Patient Care Process	PHAR 111.1: Foundations for Practice: Pharmacy Mathematics & Calculations
PHAR 170.3: Pharmacy Skills Development 1	PHAR 171.3: Pharmacy Skills Development 2
PHAR 181.1: Introductory SPEP 1	PHAR 182.1: Introductory SPEP 2
PHAR 183.1: Service Learning 1	PHAR 184.1: Service Learning 2
PHAR 191.1: IPE activities	PHAR 192.1: IPE activities
Total Credit Units: 22	Total Credit units: 23
(Spring Summer) PHAR 185.4: Introductory Community Pharmacy Practice Experience	Total Credit Units: 4
Year 2 TERM 1	Year 2 TERM 2
PHAR 290.0: Introduction to year 2	
PHAR 224.3: Science of Pharmacotherapy 1: Pharmaceutics and Pharmaceutical Biotechnology	PHAR 225.3: Science of Pharmacotherapy 2: Clinical Applications
PHAR 226.3: Foundational Sciences 5: Pharmacokinetics	Elective.3
PHAR 253.6: Pharmacotherapeutics 2	PHAR 255.6: Pharmacotherapeutics 3
PHAR 271.3: Evidence Based Medicine	PHAR 213.3: Management 1
PHAR 262.1: Pharmacy Practice 2	PHAR 263.1: Pharmacy Practice 3
PHAR 272.3: Pharmacy Skills Development 3	PHAR 273.3: Pharmacy Skills Development 4
PHAR 281.1: SPEP 4	PHAR 282.1: SPEP 5
PHAR 291.1: IPE activities	PHAR 292.1: IPE activities
TOTAL CU: 21	TOTAL CU: 21
(Spring Summer) PHAR 283.4: Introductory SPEP: Hospital Pharmacy Practice Experience	Total Credit Units: 4
Year 3 Term 1	Year 3 Term 2
PHAR 390.0: Introduction to year 3	
PHAR 324.3: Science of Pharmacotherapy 3: Toxicology	PHAR 395.3: Preparing for Patient Care/Complex cases (Capstone)
PHAR 358.6: Pharmacotherapeutics 5	PHAR 359.6: Pharmacotherapeutics 6
PHAR 314.3: Management 2/Issues in Health Care and Pharmacy	PHAR 315.3: Issues in Health Care and Pharmacy Practice
PHAR 367.1: Pharmacy Practice 5	PHAR 368.1: Pharmacy Practice 6
PHAR 374.3: Pharmacy Skills Development 5	PHAR 375.3: Pharmacy Skills Development
Elective.3	Elective.3
PHAR 384.1: SPEP 7	PHAR 385.1: SPEP 8
PHAR 391.1: IPE activities	PHAR 392.1: IPE activities
TOTAL CU: 21	TOTAL CU: 21
Year 4 (32 weeks over 3 terms: Spring & Summer, Fall and Winter)	
PHAR 490.0: Introduction to Year 4	
PHAR 481.8: Advanced Practice Experience 1: Acute Care (Hospital) Experience (8 weeks)	
PHAR 482.8: Advanced Practice Experience 2: Community Pharmacy Experience (8 weeks)	
PHAR 483.8: Advanced Practice Experience 3: Other Direct Patient Care Experience (8 weeks)	
PHAR 484.8: Advanced Practice Experience 4: Elective Practice Experience (8 weeks) (or both PHAR 485.4 and 486.4; 2 x 4 weeks)	
PHAR 487.1, PHAR 488.1, and PHAR 489.1: Integrating Seminar (1 in each term)	
TOTAL CU: 34	
TOTAL Program CU: 171	

Educational Taxonomy

During a program development retreat in June 2015, faculty reviewed various taxonomies of teaching and learning. Such schemes are often used to describe a teaching philosophy, develop a series of learning outcomes or provide a structure for program and course development. Faculty were drawn to two taxonomies: the SOLO taxonomy²¹ for describing skills development (what students do with what they learn) and Bloom's Taxonomy²² for describing what students do to learn. These were combined into one 'Educational Taxonomy' for the U of S PharmD program (Figure 1).

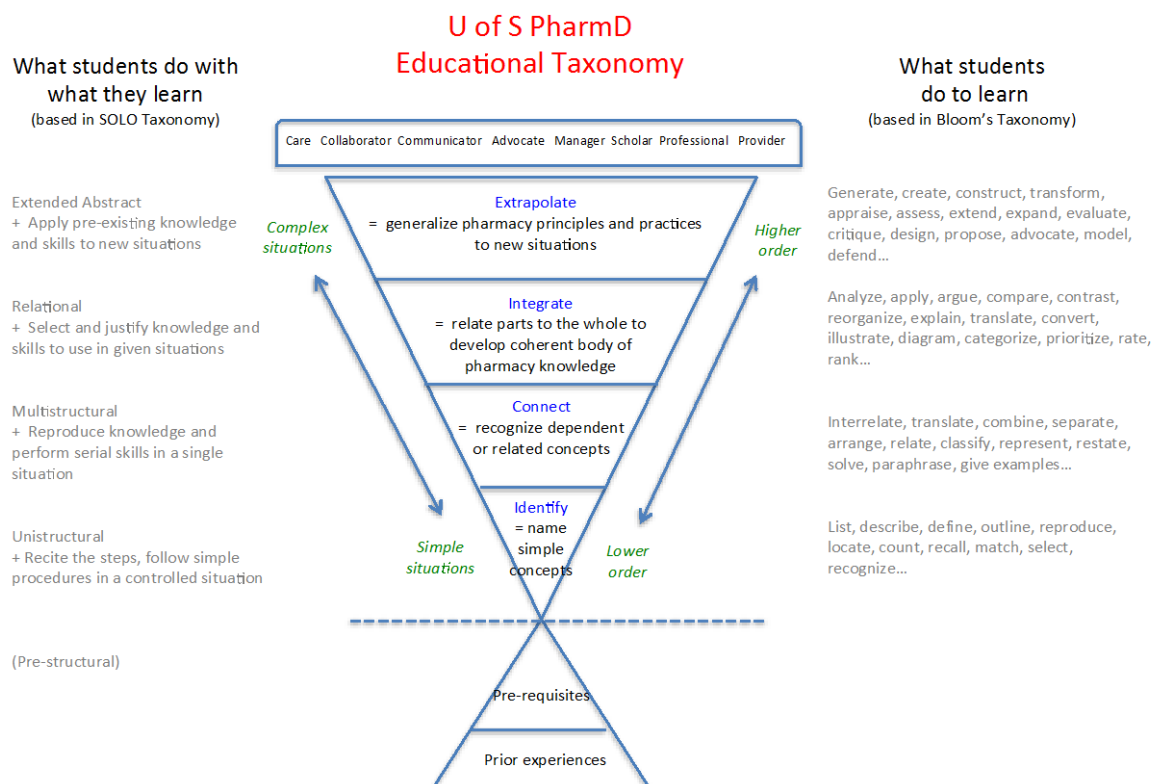


Figure 1: PharmD Educational Taxonomy

Aboriginal Education

A set of learning outcomes related to aboriginal knowledge and skills was also developed. The faculty intends to incorporate and embed these learning outcomes throughout the program. To do so, we will

²¹ Biggs, J. and Collis, K.F. (1982). *Evaluating the Quality of Learning: The SOLO Taxonomy (Structure of the Observed Learning Outcome)*. New York: Academic Press.

Biggs, J. and Collis, K.F. (1989). "Toward a Model of School-Based Curriculum Development and Assessment Using the SOLO Taxonomy". *Australian Journal of Education*, 33, 151-163.

²² Anderson, L.W. and Krathwohl, D.R. (Eds.). (2001). *A Taxonomy for Learning, Teaching and Assessing (Based on Bloom's Taxonomy)*.

consult with the educational developers at the Gwenna Moss Centre and indigenous faculty in related areas.

Interprofessional Education

Interprofessional education (IPE) is an important part of all health professional programs today. Specific accreditation standards exist for IPE and competency statements have been adopted²³. We have indicated that IPE will occur throughout the program (Table 6) and have blocked off one afternoon each week for IPE activities in the draft timetables (Appendix G) for the program. In the current BSP program, students participate in several IPE activities (e.g., interprofessional problem-based learning [i-PBL]) throughout their programs. It is our intent that, at the minimum, these activities will be incorporated into the PharmD program. However, we look forward to continued collaboration with colleagues in the other health science programs, and with the IPE coordinator hired by the Council of Health Science Deans (CSHD), to further develop IPE at the U of S.

Experiential Education

In the BSP program, year 1 students complete 60 hours of 'service learning' at various facilities in and around Saskatoon (e.g., seniors' residences, nursing homes, hospitals). While CCAPP accreditation standards do not consider service learning to be part of 'structured practice experiences', we feel it is an important aspect of students' learning how to become professionals able to provide 'care' for others. Consequently this experience will remain a part of experiential education in the PharmD program.

As mentioned previously, one of the 'guiding principles' of the new PharmD program is to have students interact with patients throughout their program, starting in term 1 of year 1. Therefore, with the assistance of partners in the Saskatoon Health Region, we have designed an introductory practice experience which will see students participating in patient care activities weekly, in SHR facilities, community pharmacies, the medSask Drug Information Service, the Medication Assessment Centre, and other sites. Students will have ongoing experiential opportunities throughout the first three years of the program. It is our intent to schedule some of these to allow senior students to act as mentors for junior colleagues, thus developing important skills for future roles as preceptors and employers. We believe this weekly experiential education component will be unique to the U of S PharmD program.

The PharmD experiential program will also include two 4-week introductory experiences between years 1 and 2 (community pharmacy practice) and years 2 and 3 (hospital pharmacy practice), and 32 weeks of advanced experiences in year 4. Year 4 will begin in May following year 3 and end April 30 the following year. During this time, each student will complete 32 weeks of training, including 3 'core' 8-week rotations ('acute care', 'community pharmacy' and 'other patient care' such as specialty experiences in psychiatry, geriatrics, infectious diseases). In addition, each student will complete 8 weeks of one or 4 weeks each of two 'elective' rotations such as working with a professional association or with faculty on a research project. During the year (3 separate terms), 'core' practice sites will host one or more students every 8 weeks for 48 weeks (there will be a 3-week vacation period in December and a one-week orientation in May). This continued presence of students will help preceptors at these sites who wish to involve senior students in specialized services year-round, and it will benefit students because such sites will be well-developed with qualified preceptors.

²³ http://www.cihc.ca/files/CIHC_IPCompetencies_Feb1210.pdf

To accommodate 90 students, using a reasonable number of practice sites, student schedules will be staggered, such that two-thirds of the class will be in rotations at any given time. The remainder will be 'off'. Two example schedules are included in Appendix H. Each has pros and cons associated with it, and these will be reviewed and discussed with students, preceptors, experiential sites, health regions, etc. as we implement the program. Representatives from several health regions including our largest partners, the Saskatoon Health Region and the Regina Qu'Appelle Health Region, community pharmacies and faculty have been working together on the experiential plan through the Experiential Education (EE) Working Group. In addition, the College will be conducting a survey of preceptors, and holding meetings and focus groups with preceptors and other practitioners to fully develop the EE plan.

The College recognizes the importance of preceptor development as we move forward, and is therefore committing resources towards this initiative by hiring a 'preceptor development coordinator' and providing preceptors and students with appropriate access to resources such as on-line training modules and the library. These are discussed in the budget section.

Comparison to Other PharmD Programs

The University of Saskatchewan PharmD program will be similar to other programs currently being offered at the University of UBC, Toronto and Waterloo, and proposed in Alberta (Table 8). All must meet CCAPP accreditation standards and must prepare graduates to meet entry-to-practice competencies, although internal organization of coursework and course delivery mechanisms may differ to accommodate individual requirements at our various universities. Because of the difference in preparatory education (i.e., CGEP programs), the Quebec programs are not included in the comparison. The Waterloo program is a co-op program, meaning some of the experiential program is offered as work placements. Therefore it is a bit difficult to make an exact comparison with it. However, the prerequisites are similar (60 Credits), and the didactic coursework is also comparable (137 CU)

Table 8: Comparison of PharmD Programs

Program Component	UBC	Alberta (proposed)	Toronto	Saskatchewan (proposed)
Credential	Doctor of Pharmacy (PharmD)	Doctor of Pharmacy (PharmD)	Doctor of Pharmacy (PharmD)	Doctor of Pharmacy (PharmD)
Entrance Course Requirements (CU)	60	60	60	60
Duration	4 years	4 years	4 years	4 years
Required didactic courses	109 CU	98 CU	*	114
Electives	15 CU	3 CU	9 CU	9 CU
Introductory practice experiences	11 CU	8 CU	8 weeks	16 CU
Advanced practice experiences	31 CU	32 CU	36 weeks	32 CU
Total pharmacy practice experiences	42 weeks	40 weeks	44 weeks	40 weeks plus weekly experiences in y1-3
Total credits	166	141	*	171

* Credit units are not used for PharmD courses

RELATIONSHIPS AND IMPACT OF IMPLEMENTATION

Please describe the impact this program will have on department activities and on students, and on other departments or colleges. Describe the consultation process followed for this program. Include any memos received, or have them attached to the online portal.

There will be no duplication of programming for the undergraduate professional degree in pharmacy at the U of S. As the PharmD program is implemented, the Bachelor's program will be phased out (Table 9). The last BSP class will be admitted in 2016, and will graduate in 2020; the first PharmD class will be admitted in 2017 and our first graduates will receive their PharmD degrees in 2021. The College will not be offering any opportunities for BSP students to transition into the PharmD program.

Table 9: Transition to PharmD by Year

	2016-17	2017-18	2018-19	2019-20	2020-21
Year 1	BSP	PharmD	PharmD	PharmD	PharmD
Year 2	BSP	BSP	PharmD	PharmD	PharmD
Year 3	BSP	BSP	BSP	PharmD	PharmD
Year 4	BSP	BSP	BSP	BSP	PharmD

If any BSP students are unable to complete their programs with the appropriate cohort, they will not be able to transfer to the PharmD program (the organization of course material is too different). Rather, faculty will ensure these few students can complete the BSP. Suggested mechanisms include video-capture of all lectures the last time they are given in the BSP program, and setting up 'independent study' courses if needed. Lab-based activities could easily be accommodated during the Spring / Summer sessions, as would any experiential requirements. Each student situation will be different and will require a specific solution. In the past few years there have been anywhere between 0 to 2 students unable to complete their programs with the appropriate cohort.

It is important to note that the PharmD credential will not be required for individuals to practice in Saskatchewan or other Canadian jurisdictions. Both BSP and PharmD graduates who pass the Pharmacy Examining Board of Canada (PEBC) Qualifying Exam, and who meet other provincially set criteria, will be able to apply for licensure. However, all Canadian pharmacy schools offering the PharmD feel that a cohort of practitioners will be interested in receiving the PharmD credential (similar interest occurred in the US when the PharmD was introduced, with most post-BSc Pharm programs being offered for about 10 years after the entry-to-practice PharmD was introduced).

To meet the anticipated demand for a 'non-traditional' or 'flexible' program from pre-2021 U of S BSP graduates who wish to attain the PharmD degree, the College will also develop a 'flexible' PharmD program via distance education, based on the new entry-to-practice PharmD program. All pharmacy schools in Canada intend to offer opportunities for licensed pharmacists within their provincial catchment areas to earn the PharmD credential through programs of this type. We anticipate submission of additional information about the structure of such a program to the Planning and Priorities and Academic Programs committees of Council within the next three years.

It is possible that the College of Pharmacy and Nutrition will be able to share some aspects of curriculum delivery of its PharmD program with other health science programs, especially now that many

undergraduate programs have moved to the new health sciences building. This will be most likely in the clinical learning resources centre in E wing, for example, in simulated patient care scenarios. As mentioned, the College also supports the need for expanded interprofessional learning opportunities for all health professional students and will actively seek to include these opportunities in the PharmD curriculum at all levels from introductory skills to advanced practice.

There will be no impact on admission to our graduate programs (M.Sc. or Ph.D.). Graduates of the PharmD program who may be interested in further research-based training in the professional discipline (or in one of the pharmaceutical sciences) will be well qualified to apply here or anywhere to enter a graduate program. Graduates will also be eligible to apply for post-graduate general practice or specialty residencies in Canada or the United States, to clinical fellowship programs in either country, or to clinical pharmacy graduate programs in the United States.

Consultations

As previously discussed, the College consulted with all departments who offer courses which will become prerequisites to the PharmD program. All are supportive of the proposed new program (see Appendix C). We also consulted with departments whose course content will be integrated into the curriculum (pathology and pharmacology) (Appendix C).

The Dean has been in frequent contact with the Ministries of Health and Advanced Education, and personnel in Workforce Planning in the Saskatchewan government, and colleagues in health regions, community practice and professional associations, and alumni. Letters of support have been received from professional associations in Saskatchewan, health regions, and students (Appendix I).

RESOURCES

Please describe what resources will be required by the new or revised program. Include information about the impact this proposal will have on resources used by existing programs. Please indicate whether the program is handled within the existing resources of the department or college (e.g., faculty, secretarial support, equipment, information technology, laboratories, library resources, space, etc.) or whether additional resources from the college or from PCIP will be required. Include any required memos from the Dean or department heads regarding resources, on the online portal.

A new professional program based on a PharmD curriculum structure will require greater per student funding from operating funds than is provided to the College for its current BSP pharmacy program. Resource needs are described below and on the attached forms. Funding for these resource needs is described in the Budget section.

Library Resource Requirements

Library resources are generally adequate, although additional titles would be useful, if acquisition costs can be reduced and library funds are available. Such resources as 'Up-to-date' and 'Pharmacists' Letter' would be useful to students and preceptors, but we understand that the Library will be receiving an update to a similar product (Dynamed Plus) which may work well. On-line resources such as eCPS, LexiComp and Dynamed are invaluable resources for students and preceptors. We anticipate continued need for downloadable and mobile resources for enhanced student learning and patient care.

Library staff have worked with faculty to develop a series of training sessions to prepare BSP students to use medical and pharmacy information resources. We look forward to the continuation of this training for PharmD students. Because there will be no change in the number of students admitted, there should be no extra resources required after the PharmD program is completely implemented. However, there may be some duplication of teaching required when both programs are being offered because the training modules may occur in different years of the programs. This is not anticipated to require extra Library personnel.

The College is very pleased that access to Library resources is given to our preceptors to support experiential education. This service is valued highly by preceptors, and we look forward to continuation of this process in the PharmD program.

We do not anticipate any major impact of this program change on the Library, but we will work with our Library Liaison to monitor the impact during program implementation and delivery.

ICT Resource Requirements

Additional ICT resources will be required for the PharmD program. These are described below.

Desktop and Faculty and Staff Support: The College has an established connection with the ICT unit on campus to support faculty and staff with their ICT needs such as setting up new computers and devices, trouble-shooting and problem-solving of technological issues, and support for the Professional Skills Lab and computer lab (112 THORV). This type of support will continue to be required.

Additional support may be needed if the former professional skills lab in THORV (G11) is re-established for 2-3 years to cover any double-teaching that may be required as the BSP program is phased out. Additional support will also be required for staff and faculty to set up and utilize software to support the experiential education program (scheduling and monitoring the experiential rotations), and to support the set up and use of curriculum mapping software. Faculty development programs may also be needed, especially as these resources are implemented.

ICT and Gwenna Moss Centre Support for Teaching: To date, the College has had limited resources or university infrastructure support to take advantage of opportunities to incorporate teaching and learning techniques involving simulations, interprofessional education activities, standardized patients or other technologies in our current BSP program, but we feel these kinds of instructional approaches must be included in the PharmD program. Faculty development programs will also be needed, to support faculty and staff as they incorporate new technology into their courses.

Access to computer lab / use of "Virtual Lab": As described in the Library section, the BSP and PharmD programs will need access to a computer lab for groups of students (24-30) to receive training in the use of medical and pharmacy information resources. We understand that such a facility will be available once renovations to the A wing of HSC are completed and that interim arrangements to increase current HSC computer lab space are occurring. Although this lab is used extensively for various exams and by various groups, if Pharmacy students can have access to this space and if it can be booked for training sessions, then the computer lab in 112 THORV could be repurposed sooner than anticipated.

If all students have personal laptops, such training could occur using the 'Virtual Lab', and therefore access to a room with Wi-Fi capabilities would be all that would be required. The College has an

agreement with the publishers of 'Micromedex' for access to this database for Pharmacy students only. This exclusive access can be continued for PharmD students, through the Virtual Lab as well.

Distributed Learning: We anticipate a need for greater access to ICT resources for some distributed learning activities, for preceptor training activities, and for interaction among students during experiential training. During year 4, students will participate in an 'integrated seminar' course which will allow continued interaction with faculty and with fellow students. Therefore we will need access to, and user support for, something like WebX, with training sessions for faculty and staff to accompany it.

We plan to develop some on-line course material (e.g., pharmacy law and pharmacy calculations), and therefore would need support to develop these materials, which presumably could then be hosted via BlackBoard.

Video Capture Technology: While Pharmacy has an excellent Professional Skills facility in the HSC building, we also require access to the CLRC for both training and assessment of students' skills in patient interactions. This includes a need to use video-capture technology, to record interactions and subsequent review of them by faculty and students. The College would also be interested in collaborating with ICT and other health science programs in the development of additional capacity for simulations and other technologies such as 'remote presence systems (i.e. robots)'.

Summary of ICT Resources Needed: To meet ICT needs, the budget includes additional ICT staff support of 1.0 FTE (in addition to the 0.3 FTE already in the budget), funds to develop on-line course material, funds to support the CLRC, and funds for video capture technology.

Personnel Requirements

Additional personnel will be required for the PharmD program as follows:

Faculty: Three new faculty positions in the pharmacy practice area will be required for the PharmD program, due to increased teaching in this area. We propose to add one position each year from 2018-2021).

Additional term faculty will be needed as the PharmD program is implemented and the BSP program is phased out, due to the differences in program structure which will require some 'double-teaching'. This double-teaching will occur in the same term to different groups, or material will need to be repeated in a second term, also to different groups (i.e. BSP and PharmD cohorts). We are proposing a total of 1.0 FTE over two years (2017-19) but this may be made up of several part-time or sessional appointments. In addition, some teaching may also be undertaken by pharmacists appointed to positions in other parts of the program such as experiential education coordinators, depending on their expertise.

Additional personnel may also be needed in the professional skills lab to accommodate skills development activities in both programs, and on-going to support skills development activities in the PharmD program.

Additional temporary resources such as more lab instructors or standardized patients may be needed as the PharmD program is implemented and the BSP program is phased out, due to the differences in program structure which will require some 'double-teaching'.

Experiential Education / Program Evaluation: We anticipate a much greater need for resources to develop high quality, contemporary practice experiential education placements in institutional practice sites, community pharmacies (especially in rural and remote areas), and primary care practices. These needs have been captured in the budget. Funding currently received from the Ministry of Health to support clinical placement sites in the health regions will be phased out, based on discussions with the Ministry of Health.

The need for additional personnel to organize and manage experiential education and program evaluation and assessment functions in our current program has been identified during accreditation reviews and in College strategic planning and planning parameters assessments. To meet these needs a program evaluation and assessment coordinator was hired and has begun work on an evaluation plan for the program. She has also begun working with faculty on current assessment strategies and will continue to help them develop appropriate strategies to support the PharmD program.

We currently have 1.0 FTE personnel working on the experiential program. We propose to expand the Office of Experiential Education over 3 years (2016-2019) to include a total of 5 staff (1 Director who is a faculty member, 2 experiential coordinators, 1 preceptor development coordinator and 1 secretary).

Administrative Support: As a result of differences in the admission process, double teaching and introduction of a new program, additional administrative support, and support for professional skills development activities may be required, at least temporarily. Although difficult to predict, the budget includes additional administrative support for these purposes.

Physical Resource Requirements

Although most Pharmacy faculty and staff are accommodated in the HSC building, we require additional physical resources, such as faculty offices, for the PharmD program, especially during the next 3 years until the completion of renovations to the A and B wings of HSC. Additional temporary physical resources may be needed as the PharmD program is implemented and the BSP program is phased out, due to the differences in program structure which will require some 'double-teaching'. These are described below.

Office Space: The need for additional personnel to organize and manage experiential education in our current program has been identified during accreditation reviews and in College strategic planning and planning parameters assessments. We currently have 2 individuals working on the experiential program who are housed in THORV. We propose to expand the Office of Experiential Education over 3 years (2016-2019 to include a total of 5 staff (1 Director who is a faculty member, 2 experiential coordinators, 1 preceptor development coordinator and 1 secretary). We understand that space in A-wing will be developed for this office, but temporary quarters will be required in E-wing until this occurs.

We have also identified a need for additional pharmacy practice faculty members to deliver the PharmD program. Three additional positions are proposed in the budget, to be added in 2018-21. They will need offices in E-wing close to other pharmacy faculty.

Teaching Space: The additional classroom spaces opening in A/B in 2016 will fit the size of PharmD classes. Access to classrooms in the HSC building may be an issue at certain times of the day, but we are

prepared to work with our colleagues in the building and with Classroom Scheduling to develop timetables which can effectively use the spaces available.

While the area of 'sterile products' will continue to be taught in the PharmD program, the degree of students' exposure to the actual preparation of sterile products may change as pharmacy technicians become licensed. However, we understand that the BSP program will have access to a newly renovated lab space in A/B wings in 2016, and continued access to biohazard hoods in another lab. These facilities will both be adequate for the PharmD program.

Special Requirements / Equipment: Access to biohazard hoods and use of video capture technology in the CLRC and Skills Lab will be required as described above.

Additional office furniture may be required for temporary office spaces. Computer hardware will be required for new faculty and staff. Additional computers and printers will be required if G11 THORV is re-established as a professional skills facility for 3 years (older equipment removed from other labs and offices may be available for this short-term purpose).

Impact on Other Departments/Units and Programs

A positive impact of moving basic science and biomedical science courses to the prerequisite years for the PharmD program will be increased enrolment in those courses. Increased enrolment will mean increased resources from tuition for those departments. There may also be a temporary negative impact on some departments such as Chemistry for the year(s) that we require them to reserve spaces for students in the BSP program. The College is prepared to work with affected departments if additional resources are required for course delivery or laboratory instruction. Introduction of the PharmD program may have a positive impact on the Nutrition program because Nutrition faculty will be included in faculty development activities that are offered in the College.

BUDGET

Please indicate if budget allocations within the department or the college will change due to this program.

The accrediting body (CCAPP) has identified the College's program budget resources as an issue during its past three accreditation reviews. Full implementation of the TABBS model in 2015-16 and re-investment in the undergraduate pharmacy program resulting from its TransformUS quintile 1 recommendation has provided new resources of \$1.1 million to the College to make it feasible for the BSP program to continue and to set the stage for development of the PharmD program. However, additional funds will be required for implementation and delivery of a high quality Pharmacy program.

The College has examined its undergraduate pharmacy program tuition to ensure that it continues to adhere to the University's tuition principles of affordability and accessibility, quality, and comparability to other schools' tuition for the PharmD. Because the PharmD is an undergraduate doctoral degree like Medicine and Dentistry, with all courses offered within the College, a similar tuition model should apply. We are therefore proposing that the PharmD program move to a model which charges a set tuition, rather than on a 'per credit unit' basis, and that this tuition be **\$17,000 per year**. This amount is an increase from the current BSP tuition (approximately \$9700 per year), but it is required to provide the resources required to offer the program. It is also similar to tuition charged by other Canadian PharmD programs (Table 10). Tuition for PharmD programs in the US is variable (two are illustrated in Table 10)

but generally higher than Canadian programs (tuition in Quebec is highly subsidized by government and is therefore not comparable to other programs).

Table 10: Tuition for PharmD Programs

University	PharmD Tuition (per year)*
British Columbia	\$16,486 (includes \$1000 'practice' fee)
Toronto	\$18,700 (includes \$1350 'practice' fee)
Waterloo	\$19,785 (average of 4 years)
University of Washington	\$28,362 (residents) \$50,286 (non-residents)
SUNY - Buffalo	\$24,400 (residents) \$46,730 (non-residents)

* Information obtained from University websites for 2015-16 tuition

Using tuition rates of \$17,000 per student per year, the attached Budget (Appendix J) was created. The table in Appendix K describes how the budget was developed, using the resource needs described in the previous section of this proposal. The following assumptions were employed:

- 1 % increase in base budget for next 2 years, then 2% increase per year
- 3% increase in personnel costs per year
- College receives 73% of additional tuition (central administration retains 27%).

COLLEGE STATEMENT

A statement from the Dean about the PharmD proposal is attached as Appendix L.

For Further Information:

Dr. Kishor Wasan
Professor and Dean,
College of Pharmacy and Nutrition

Dr. Yvonne Shevchuk
Professor and Associate Dean (Academic)
College of Pharmacy and Nutrition

APPENDICES

Appendix A: Guiding Principles

Appendix B: Notice of Intent

Appendix C: Letters of Support (University Departments)

Appendix D: Table reviewing admission criteria

Appendix E: Program Development Process

Appendix F: Course Descriptions

Appendix G: Draft Example Timetables

Appendix H: Draft Examples of Experiential Schedules

Appendix I: Letters of Support (Professional Colleagues and Partners)

Appendix J: Draft Budget

Appendix K: Description of Budget Items

Appendix L: College Statement

PHARMACY CURRICULUM RENEWAL
Guiding Principles for PharmD Program Development

Educational Goals

1. The program will graduate **medication therapy experts** who have achieved all of the outcomes of the AFPC *'Educational Outcomes for First Professional Degree Programs in Canada (2010)* and who can meet the NAPRA *'Professional Competencies for Canadian Pharmacists at Entry to Practice'*.
2. All Educational Outcomes will be taught throughout all years of the program. (e.g., drug therapy should not be divided into Rx/nonRx; a disease state starts the process..)
3. Starting on Day One, students will progress through simple to complex patient care activities/examples.
4. The program should emphasize 'core' diseases, without sacrificing some breadth of knowledge (although recognize we cannot teach it all).
5. Practice skills should start on day 1 and build throughout the program.
 - a. Whatever we teach must be taken to its practical application point.
6. The program should develop students' leadership skills (i.e. to profession and society) via engagement and participation in the profession, policy discussions etc.
7. The program should foster interprofessionalism – IP learning opportunities should start early and carry throughout the program.
8. The program should include an entrepreneurial/business focus which focuses on innovation (how to be successful in practice).
9. There should be competency streams (vertical integration) throughout the curriculum with one faculty member responsible for coordination of the stream (e.g., adherence, communications).
10. We should align with external drivers e.g., ISMP terminology, cover recommendations of external agencies.

Attitudes

11. The program will include a set of values or attitudes expected of students, which will be modeled by faculty (e.g., attendance, professionalism, accountability – could be on a continuum.)
12. The program values should foster responsibility or accountability within the context of societal expectations (e.g., motivation to investigate a patient's problem, discover information, synthesize solutions, act on it, influence care etc.; take 'ownership' of patient care)

Teaching/Learning Methodologies

13. The program should be 'ahead' of technology and faculty should be open to using innovative methods in teaching.
14. Curriculum delivery/learning should be 'student-centered'.
 - a. Students will be expected to take ownership of own learning and the program should develop self-reflective learners.
 - b. The format of teaching should be one of the guiding principles- i.e. we should determine what the format of teaching should be.
15. The program should include frequent and early practical experiences with meaningful patient interactions.
 - a. Maybe with the same group of students throughout several years in SPEP?
16. The program should integrate pharmaceutical sciences and pharmacy practice (e.g., start with disease, then treatment, then drug design etc.)
17. The program should include peer-mentoring or stewardship (learn by teaching).
18. We should adopt the same language as that used in the patient care process i.e., adopt a set of terms and all use them, use them to keep track of themes, adapt as practice changes.

Appendix A

Assessment & Performance Standards

19. We should set appropriate performance standards and communicate them consistently, plan to ensure success, and include assessment strategies in the curriculum framework. We need to be able to assess the quality of our graduates and the outcomes of this curricular change. Feedback needs to be built in.

Resources

20. The College should provide appropriate faculty development and make sure it fits with other needs (such as tenure and promotion requirements).
21. We must have an appropriate complement of faculty and support staff to make this curriculum happen.

Admissions Criteria (added from Admissions WG discussions)

22. There should be sufficient flexibility in prerequisite courses to:
 - a. allow students to apply to different programs OR apply here from different universities
 - b. complete an alternate degree if they are not admitted to Pharmacy
 - c. transfer courses from other universities.

College of Pharmacy and Nutrition

Notice of Intent for a New Program: Doctor of Pharmacy (PharmD)

The College of Pharmacy and Nutrition is proposing the development of the Doctor of Pharmacy (PharmD) program to replace the current Bachelor of Science in Pharmacy (BSP). The PharmD is the undergraduate entry-to-practice professional degree in pharmacy now offered at several universities in Canada, at all U.S. schools of pharmacy, and in several other countries. This undergraduate professional doctoral degree is similar in designation to the Doctor of Medicine (MD), Doctor of Veterinary Medicine (DVM) or Juris Doctorate (JD) degrees currently offered at the University of Saskatchewan.

The Association of Faculties of Pharmacy of Canada has established a goal of 2020 for all pharmacy programs in Canada to begin offering the PharmD as the first professional degree in pharmacy¹. As of 2013, four of the ten schools in Canada now only offer the PharmD as the first professional degree in pharmacy, one has had this degree program approved and is preparing to implement, and the remaining 5 schools are in various stages of development of their programs. It is the intent of the College of Pharmacy and Nutrition at the University of Saskatchewan to develop the PharmD program for implementation in the fall term of 2016.

In preparation for the development and implementation of the PharmD degree, the College of Pharmacy and Nutrition has established the *Pharmacy Curriculum Renewal Steering Committee* with membership from faculty, students, practitioners and external partners. The Committee has held a Faculty Retreat and several Student 'Town Hall' meetings and has initiated consultations with the Government of Saskatchewan ministries of Health and Advanced Education, professional organizations, employer groups and several health regions.

Consultations will be on-going throughout all stages of development and implementation and will also include community pharmacy partners and all health regions in Saskatchewan. Initial responses to the proposed introduction of the PharmD have been favorable, with many questions and expressions of interest from practising pharmacists and employers. The College anticipates that this interest will continue and we hope to translate it into increased support for experiential training opportunities for our students, and enrolment by licensed SK pharmacists into a planned complementary 'bridging' program that will also be introduced by the College.

The College has consulted with Biomedical Sciences departments in the College of Medicine and several departments in the College of Arts and Science about what will be required to modify the 'pre-pharmacy' program. All have been positive and willing to work with the College of Pharmacy and Nutrition over the next few years as it transitions to the new program.

1. What is the motivation for proposing the program at this time? What elements of the university and/or society support and/or require this program?

The primary motivation for developing the PharmD program is connected to the significant changes in the nature of pharmacy practice and the increasing complexity of pharmaceuticals that have occurred since the original BSP curriculum structure at the University of Saskatchewan was put in place in the late

¹ http://afpc.info/sites/default/files/AFPC_ADPC_PharmD_Position_Statement_Resolution_Sept_2010.pdf

1940's, and more recently, since the last major curriculum revisions were made in the early 2000's. Quite simply, the explosive growth of the modern era of pharmaceutical development in the last quarter of the 20th century, the refinement of contemporary practice skills and societal expectations for pharmacists, and Canadian health care system challenges with respect to the safe and effective use of medications have created conditions for pharmacy graduates entering practice that can no longer be met with a baccalaureate curriculum structure. The principal objectives for the new PharmD curriculum in its replacement of the present BSP program therefore, will be the following:

- To educate and graduate pharmacists who are skilled in the safe and effective use of pharmaceuticals with increasingly complex characteristics related to their indication for use; pharmacology; administration, distribution, metabolism, and excretion; and dosage form and delivery technology,
- To prepare graduates who have the competencies to undertake the new and expanding patient care roles in the Canadian health care system that are now required of pharmacists as a result of greatly enhanced legislated scope of practice changes,
- To prepare graduates who are expected to be increasingly accountable for patient quality outcomes related to medication use in the Canadian health care system – to improve poor patient adherence, to identify preventable adverse drug reactions, to reduce drug-implicated hospitalization, to ensure effective chronic disease management with medications, to increase patient safety, to reduce non-evidence informed prescribing practices, to collaborate more closely with other health professionals in patient care, and to increase taxpayers' value for money in provincial and 3rd party prescription drug insurance benefit programs,
- To provide the opportunity for University of Saskatchewan pharmacy graduates to consider certain advanced and specialty residency or fellowship training programs only available at academic health science centres in the United States. The baccalaureate credential of U of S graduates is now not fully recognized for pharmacist licensure in the US, making the U of S pharmacy program one of the few professional programs at the University where graduates do not have career mobility options into the United States. A reciprocal recognition of the accreditation status of Canadian pharmacy schools by the US pharmacy accreditation agency (ACPE) does not exist, and
- To ensure that the undergraduate pharmacy program at the University of Saskatchewan continues to meet accreditation requirements for pharmacy programs in Canada. It is expected that the next revision to the accreditation standards for the professional degree in pharmacy set by the Canadian Council for Accreditation of Pharmacy Programs will require a PharmD curriculum structure.

The need for greater use of pharmacists' skills in providing health care to Canadians has been previously identified². The 2011 *Blueprint for Pharmacy*³ describes the vision of what pharmacists in Canada can and should be doing as members of health care teams and as providers of primary care as: "*optimal drug therapy outcomes for Canadians through patient-centered care.*" All national⁴ and provincial pharmacy associations supported this vision and have been working toward it for the past three years.

² Building on Values: The Future of Health Care in Canada, R. Romanow, accessed March 28 2014 at: <http://publications.gc.ca/collections/Collection/CP32-85-2002E.pdf>

³ See: <http://www.blueprintforpharmacy.ca/>

⁴ Canadian Pharmacists Association Position Paper on PharmD can be found at: <http://www.pharmacists.ca/cpha-ca/assets/File/cpha-on-the-issues/PPDoctorOfPharmacyEN.pdf>

Recommendations within the *Blueprint* related to pharmacy education include expanded experiential training and interprofessional teamwork opportunities for students and graduates. In addition, the educational outcomes for Pharmacy programs in Canada have recently been revised by the Association of Faculties of Pharmacy of Canada (AFPC) to focus on producing graduates who can function as 'medication therapy experts'. At a College faculty retreat in June 2013, our faculty reaffirmed the intent outlined in the College's contribution to the University's 3rd Integrated Plan (*Promise and Potential*) to develop a PharmD program based on these educational outcomes.⁵

The *Blueprint Vision for Pharmacy* and its recommendations also align well with the four pillars of the Saskatchewan Ministry of Health's strategic plan: better care, better teams, better value, and better health. All of these factors have stimulated the desire by the pharmacy faculty to review and revise the undergraduate pharmacy curriculum to ensure our graduates are able to work with patients for better health care outcomes now and in the future.

In addition, the site visit team for the College's most recent (2012) accreditation by the Canadian Council of Accreditation for Pharmacy Programs (CCAPP) indicated that our current pharmacy program is solid but in need of a major update to align it with educational and training needs of pharmacy graduates to meet current patient care responsibilities for pharmacists. CCAPP has recently released new accreditation standards for undergraduate pharmacy programs that, while still permitting accreditation of baccalaureate programs, are now based on the PharmD as the first professional degree curriculum structure. However, it is fully expected that the next revision to the CCAPP accreditation standards will remove its acceptance of the baccalaureate option and require the University of Saskatchewan to meet these standards at the PharmD level or risk loss of accreditation for its pharmacy program.

The current accreditation standards include increased requirements for interprofessional education and experiential training than that presently provided in the BSP program, especially in the final year. The accreditation standards also require programs to retain a strong foundation in pharmaceutical, clinical, and social/administrative sciences that limits the College's options to reduce curricular emphasis in these areas to provide additional time for experiential training. To incorporate the required experiences, our program will need to be re-organized in some way. The College feels the best way to accomplish this is to change the program from a 1 (prepharmacy) + 4 year program into a minimum of a 2 year (prepharmacy) + 4 year professional program. This is the structure in place for most Canadian and US PharmD programs.

By requiring students to complete foundational courses (e.g., biomedical sciences and other introductory courses) before entry into the pharmacy program, we can fully develop students' knowledge, skills and abilities with three years of coursework in the other required curricular areas prior to a full year (42 to 48 weeks) of advanced experiential training in year 4 (currently 15 weeks in term 2 of year 4).

With this expansion in experiential training, students will have more sustained time to develop the judgement, confidence and proficiency necessary to be fully 'practice ready' at the completion of the program, and also to consider opportunities to engage in various types of practice beyond the current clerkship selections in traditional community and hospital practices. These innovative or specialty experiences may include clinical rotations with primary care teams, providing pharmacy services in rural

⁵ <http://afpc.info/sites/default/files/AFPC%20Educational%20Outcomes.pdf>

and remote areas of the province, international health care placements, or working on health promotion/disease prevention projects.

2. What is the anticipated student demand for this program? Does the program meet a perceived need, particularly within a national context? How have these needs been assessed?

The current pharmacy program receives 600+ applications each year for 90 positions in the admission class. This figure has been constant over the past 10 years, and we do not anticipate any change in demand. National and provincial employment data indicate the supply and demand for pharmacists is a stable market where the demand for pharmacists is largely determined by national population increases, age demographics, and the number of prescriptions consumed. However, the need for pharmacists to fill vacant positions is somewhat less acute than a few years ago when serious shortages were apparent. Interestingly, Canada still licenses a large number of international pharmacy graduates (IPGs) equal to the number of pharmacists graduating from Canadian universities each year. The need is still great in rural and remote areas, including parts of Saskatchewan and in hospitals. The College's quota of 90 entering students was found to be the 'right size' for our program during Workforce Planning discussions with SaskHealth.

During the past 3-4 years, the College has noted a 'buzz' among current students and students applying for admission – they are aware of the proposed change to the PharmD degree, and most have expressed interest in attaining the degree, either by waiting to apply in 2016, or by completing additional training after graduation. At a recent 'town hall' meeting with students, much discussion surrounded the need for an online 'bridging' program to be developed concurrently with the new 'in class' program whereby recent graduates and existing pharmacists in the province can also earn the PharmD credential.

As mentioned earlier, all pharmacy programs in Canada are in various stages of active planning for implementation of PharmD programs. If the University of Saskatchewan delays offering the degree (i.e. later than our U15 competitor pharmacy schools), we may see a drop in applications as students go elsewhere to attain the credential.

A reduction in numbers of applicants may also mean that the 'pool' of applicants will contain fewer numbers of students with high academic standing because they will be accepted elsewhere, requiring the U of S to consider lower admission standards to fill the 90 seats. A drop in the number of graduates or a reduction in quality would also impact the quality of health care provided by pharmacists in the province because 93% of the practising pharmacists in Saskatchewan are graduates of the U of S program⁶.

In addition to the documentation required by University Council concerning the background rationale for the proposed new PharmD program, the structure of its curriculum, evidence of internal and external support from relevant stakeholder consultations, and confirmation of the resources that will be necessary to implement and deliver the new program, the College is also expected to provide documentation to the Government of Saskatchewan ministries of Advanced Education and Health that addresses the information outlined in the F/P/T Ministers of Health entry-to-practice assessment

⁶ Personal communication, J. Eriksen, Assistant Registrar, Saskatchewan College of Pharmacists, March , 2014

process⁷. Senior representatives of the College's project team for the new curriculum have had regular meetings with representatives from the two ministries to ensure compliance with this requirement.

3. How does this proposal fit with the priorities of the current college or school plan and the University's integrated plan? If the program was not envisioned during the integrated planning process, what circumstances have provided the impetus to offer the program at this time?

The development of the PharmD program as the entry-to-practice credential was outlined in the College's strategic plan and was referenced in the University's 3rd integrated plan. The implementation of this degree program is essential for the University of Saskatchewan to maintain full accreditation of the undergraduate pharmacy program, and to graduate pharmacists able to offer optimum pharmacy care to the citizens of Saskatchewan.

As noted in the College of Pharmacy and Nutrition's strategic plan, the implementation of a new PharmD program will also support the University's goal for innovation in academic programs by increasing delivery of innovative experiential, interprofessional and student-oriented/driven components (such as distance learning) of the pharmacy degree program and aligning our program with directions and practice competencies for the profession of pharmacy. Along with expansion of training in cultural competency, it is expected that the program will incorporate additional opportunities for students to participate in experiential training outside Canada and to increase service learning with diverse communities in Saskatchewan. This initiative will also support the University's goal for aboriginal engagement by increasing curricular content of First Nations, Métis and Inuit cultures and health in the undergraduate pharmacy program. Re-evaluation of admission criteria will also give us an opportunity to review and support additional enrolment of students of aboriginal ancestry, and to work with other health sciences programs to enhance and support the educational experience of our aboriginal students.

4. What is the relationship of the proposed program to other programs offered by the college or school and to programs offered elsewhere (interactions, similarities, differences, relative priorities)? Is there justification to proceed regardless of any perceived duplication? Will a program be deleted as a result of offering the new program?

There will be no duplication of programming for the undergraduate professional degree in pharmacy. As the PharmD program is implemented, the Bachelor's program will be phased out. The last BSP class will be admitted in 2015, and will graduate in 2019; the first PharmD class will be admitted in 2016 and our first graduates will receive their PharmD degrees in 2020.

The University of Saskatchewan PharmD program will be similar to other programs currently being offered at the University of Montréal and those at Laval, Toronto and Waterloo. All must meet CCAPP accreditation standards and must prepare graduates to meet entry-to-practice competencies, although internal organization of coursework and course delivery mechanisms may differ to accommodate individual requirements at our various universities.

There will be no impact on admission to our graduate programs (M.Sc. or Ph.D.). Graduates of the PharmD program who may be interested in further research-based training in the professional discipline

⁷ (<http://www.hc-sc.gc.ca/hcs-sss/hhr-rhs/committee-comite-hdhr-ssrh/practice-pratique-eng.php>)

(or in one of the pharmaceutical sciences) will be well qualified to apply here (or anywhere) to enter a graduate program. Graduates will also be eligible to apply for post-graduate general practice or specialty residencies in Canada or the United States, to clinical fellowship programs in either country, or to clinical pharmacy graduate programs in the United States.

To meet the anticipated demand for a 'non-traditional' or 'bridging' program from pre-2020 BSP graduates who wish to attain the PharmD degree, the College will also develop an online 'flexible' PharmD program based on the new "'in class' entry-to-practice PharmD program. All pharmacy schools in Canada intend to offer opportunities for licensed pharmacists within their provincial catchment areas to earn the PharmD credential through bridging-type programs. We anticipate submission of additional information about the structure of such a program to the Planning and Priorities and Academic Programs committees of Council shortly after approval is given for the program.

It is possible that the College of Pharmacy and Nutrition will be able to share some aspects of curriculum delivery of its PharmD program with other health science programs, especially now that many undergraduate programs have moved to the new health sciences building. This will be most likely in the clinical learning resources centre in E wing, for example, in simulated patient care scenarios. The College also supports the need for expanded interprofessional learning opportunities for all health professional students and will actively seek to include these opportunities in the PharmD curriculum at all levels from introductory skills to advanced practice.

5. Does the college or school possess the resources required to implement and support the program (faculty teaching, administrative and other support, student funding, classroom space, infrastructure)? Will additional university resources be required, for example, library resources, IT support? Has the Provost's Committee on Integrated Planning (PCIP) been involved in any discussions related to resources?

A new professional program based on a PharmD curriculum structure will require greater per student funding from operating funds than is provided to the College for its current BSP pharmacy program. In addition to its operating grant, the College also receives a small targeted grant from the Ministry of Health annually over the past ten years to support clinical placements.

The accrediting body (CCAPP) has identified the College's program budget resources as an issue during its past three accreditation reviews. However, more favourable funding projections for the College resulting from the full implementation of the TABBS model in 2015-16 and expected added investment to the undergraduate pharmacy program resulting from its TransformUS quintile 1 recommendation should provide a significant amount of new resources to the College. The College will also likely examine its undergraduate pharmacy program tuition to ensure that it continues to adhere to the University's tuition principles of affordability and accessibility, quality, and comparability as the other pharmacy schools replace their baccalaureate pharmacy programs with the PharmD curriculum.

Library resources are adequate, but we anticipate a need for greater access to IT resources for some distributed learning activities with the structured practice experiences located in Regina and other health regions in the province. To date, the College has had limited resources or university infrastructure support to take advantage of opportunities to incorporate teaching and learning techniques involving simulations, interprofessional education activities, standardized patients or other

technologies in our current BSP program, but we feel these kinds of instructional approaches must be included in the PharmD program.

We also anticipate a much greater need for resources to develop high quality, contemporary practice experiential education placements in institutional practice sites, community pharmacies (especially in rural and remote areas), and primary care practices. The need for additional personnel to organize and manage experiential education and program evaluation and assessment functions in our current program has been identified during accreditation reviews and in College strategic planning and planning parameters assessments.

A detailed resource plan will be developed for the PharmD program over the next year. It will include an analysis of which budget model would provide the most acceptable and sustainable revenue sources for the major cost components of the new PharmD curriculum.

For further information please contact:

Yvonne Shevchuk
Associate Dean (Academic)
306-966-6330
Yvonne.shevchuk@usask.ca

David Hill
Dean, Pharmacy and Nutrition
306-966-6328
David.hill@usask.ca



UNIVERSITY OF SASKATCHEWAN

To: Linda Suveges
Professor Emerita, College of Pharmacy

From: Bill Roesler
Head, Department of Biochemistry

Date: September 1, 2015

Re: BMSC 200.3 and 230.3 prerequisites for new Pharmacy program

This memo responds to a few questions you posed in an email to me dated August 25, 2015. The proposed admission requirements for the new Pharmacy program will make BMSC 200.3 and BMSC 230.3 prerequisites for admission. As you pointed out in your email, this change will not create any significant swing in enrollments since most applicants to your program now have already taken these programs, so there is no issue from the enrollment number side.

Your major question was regarding BMSC 230.3, Introductory Metabolism, and the potential that an equivalent course may not be available to students from other Universities, preventing them from meeting this admission prerequisite. Currently, we have no plans to offer an online version of the course although it is something that I would like us to pursue at some point. I believe, based on our experience when BMSC 230 was a prerequisite for applicants to the medical program, that most universities offer a course that would cover most of the relevant aspects of metabolism at an introductory level. In those cases where that does not exist, there are online courses available that may be acceptable to your program, such as Chem 301 through Athabasca University.

I'm happy to discuss this further should you need more information or clarification.

A handwritten signature in blue ink that reads "Bill Roesler".

William (Bill) J. Roesler, Professor and Chair
Department of Biochemistry, University of Saskatchewan
107 Wiggins Road, Saskatoon, SK S7N 5E5 Canada
Telephone: 306-966-4375 Email: bill.roesler@usask.ca

September 10, 2015

Professor Linda Suveges
College of Pharmacy and Nutrition
University of Saskatchewan

Dear Dr. Suveges,

Thank-you for soliciting the input of the Department of Chemistry on the proposed admission requirements for the new Pharm. D. program. Chemistry and Pharmacy have enjoyed a good working relationship, and the inclusion of Chemistry 255.3 in the B. Pharm. program has been beneficial for both of us. The new program will result in students your program not taking any courses offered by our department, but I hope that we can continue to consult and cooperate as you transition to this new degree offering. **I only have comments on two aspects: CHEM 255, and the proposed math requirement.**

The proposed changes have a direct impact on **CHEM 255**. Making this course a pre-requisite rather than a part of the program is logical from our perspective as well. A long term impact on enrolment is always difficult to predict, but the numbers you supplied suggest that about 155 students per year apply to the Pharmacy program from the U of S. If this number replaces the current ~75 B. Pharm. students enrolled, the resulting increase of 80 students per year is something we are prepared to handle. It will require additional resources on our part, such as additional teaching assistants, and additional laboratory equipment. These costs will largely be offset by the increase tuition revenue, although not entirely. There will likely be some larger equipment costs (such as an additional rotary evaporator) that would drive up the initial costs considerably. Our laboratory manager estimates this initial cost at about \$18,000. This outlay would have long term benefits for our program and is not seen as a barrier.

The possibility of a one-time "double cohort" of B. Pharm. and pre-Pharm students does pose a logistical and financial threat to us. I would urge you to mount a serious advertising campaign as soon as possible in order for students to be informed well in advance (to spread the enrolment increase over 2 terms). If this bulge of students is as large as predicted, we may not be able to staff the laboratory with teaching assistants in 2016-17 without extraordinary hiring. **In this event, we would seek some financial help from your College for hiring additional TAs.**

Your proposal lists MATH 125.3 as the course requirement under the heading "Mathematics (Calculus)". MATH 125 is called "Mathematics for the Life Sciences", and we understand why you would suggest it to your students. However, your table suggests that other calculus courses are not acceptable, which I don't believe is your true intent. I don't

think you would refuse students who had taken the primary introductory calculus offering (MATH 110.3, Calculus I) or the offering intended for engineers (MATH 123.3). The physical science programs who require a different calculus course than MATH 125 are severely impacted by this, and calculus requirements (we require a minimum of 6 c.u. of calculus) have become a bottleneck in our program. Because many students aiming for Pharmacy don't end up in your program, your prerequisites affect many science students. Your English requirement is much less specific, and that model could be applied to your math requirement. **Therefore we strongly urge you to broaden the calculus requirement to MATH 125.3 or MATH 110.3 or MATH 123.3.**

We greatly appreciate your collegiality in the development of your new program prerequisites, which is something we do not always enjoy from other programs. I would be happy to discuss these or other issues with you in person. Please let me know if you need any other information.

Good luck with your new program!

Best wishes,



Dr. David Palmer
Head of Chemistry



College of Arts and Science

Raj Srinivasan, Head

Department of Mathematics and Statistics

142 McLean Hall, 106 Wiggins Road

Saskatoon, SK S7N 5E6 Canada

Telephone: (306) 966-2117

Facsimile: (306) 966-6086

Email: raj@math.usask.ca

Website: <http://artsandscience.usask.ca/math/>

September 21, 2015

Dr. Linda Suveges
Professor Emerita
College of Pharmacy and Nutrition
University of Saskatchewan
Health Sciences Building
107 Wiggins Road
Saskatoon, SK S7N 5E5

Dear Dr. Suveges:

Thank you for requesting our input on your plan to include Math 125.3 and STAT 246.3 as prerequisites for the proposed PharmD program. The Department of Mathematics and Statistics fully supports this proposal.

I am very pleased to note that the proposed changes to PharmD Program has kept Math 125.3 and Stat 246.3 as prerequisites as they were developed exclusively for PharmD Program and has served the Program very well in the past years.

The Department of Mathematics and Statistics is confident that it can handle the anticipated growth in enrolment in these two courses, and as usual, we will reserve seats in Math 125 and Stat 246 to accommodate the Pharmacy students who are in transition in the next two years before the new changes are implemented.

Sincerely yours,

A handwritten signature in blue ink, appearing to be "Raj Srinivasan", written over the typed name and contact information.

Raj Srinivasan, Head
Department of Mathematics and Statistics
Telephone: (306) 966-2117
Email: raj@math.usask.ca

September 14, 2015

Dr. Linda Suveges
College of Pharmacy and Nutrition
University of Saskatchewan
Saskatoon, Saskatchewan S7H 3S2

Dear Linda,

Thank you for your email of August 25th 2015 concerning Microbiology as a prerequisite for the new Pharmacy program you are in the process of creating. As you have discussed with us previously, with the new program there will be a prerequisite for a second year Microbiology course, which will be fulfilled by credit for BMSC 210.3 offered by our department. This will replace the requirement for MCIM 224.3 within the current program. We will be able to accommodate the expected increase in enrollment in BMSC 210.3 as this is taught in each semester, and is held in a very large classroom. We also understand that MCIM 224.3 will need to be taught for each of the 2016-2017 and 2017-2018 years for the students of the current program during the transition. As you have suggested, if the resource circumstances of the department change in this interval we could also consider reserving space in BMSC 210.3 for the students of the expiring program as well.

We support you in your creation of the new PharmD program and with this letter wish to indicate that we are prepared for the increased enrollment in BMSC 210.3 and also are prepared to deliver MCIM 224.3 for two more years during the transition period.

Sincerely,



S. Peter Howard, Ph.D
Professor and Chair
Department of Microbiology and Immunology
Peter.howard@usask.ca



October 8, 2015

Dr. Linda Suveges
Professor Emerita
College of Pharmacy and Nutrition
University of Saskatchewan

Dear Linda:

Re: Nutrition 120.3 as Prerequisite for new PharmD Program

Thank you for requesting our input on your plan to list NUTR 120.3 as a prerequisite in the new PharmD program. The Division of Nutrition and Dietetics fully supports this proposal. NUTR 120.3 is offered in all three terms, and is also available as an on-line course, so we do not anticipate any problems with an increase in enrolment. In addition, we are currently working on a project to identify introductory Nutrition courses from other universities and colleges across the country. This will provide us with the information necessary to advise you on equivalency of courses, if that is something that would be useful in the future.

If you need further information, please feel free to get in touch.

Yours truly,



Carol J. Henry, Ph.D.
Assistant Dean, Nutrition and Dietetics

CJH:smk



UNIVERSITY OF
SASKATCHEWAN

College of Medicine

• Department of Physiology

107 Wiggins Road Saskatoon SK S7N 5E5 Canada
Ph: 306-966-6530 Fx: 306-966-4298

September 8, 2015

Dr. Linda Suveges
Professor Emeritus,
College of Pharmacy and Nutrition,
University of Saskatchewan

RE: **PHSI 208.6 as Prerequisite for New Pharmacy Program**

Dear Dr. Suveges,

Thank you for requesting our input on your plan to list our course PHSI 208 as a prerequisite for your new Pharm. D. program. The Department of Physiology fully supports this change. We opened the enrollment of PHSI 208 to Arts and Sciences students last year, partly in anticipation of changes to your program, and have seen an increase in student numbers from 242 last year to 325 students this year. The course is going well and we do not anticipate any problems with the increased enrollment. We are pleased that our course continues to be a part of the training of students in your program and look forward to continuing to offer it.

If you need further information, please do not hesitate to contact me.

Sincerely yours,

A handwritten signature in blue ink that reads "Thomas Fisher".

Thomas E. Fisher, Ph.D.
Professor and Head,
Department of Physiology

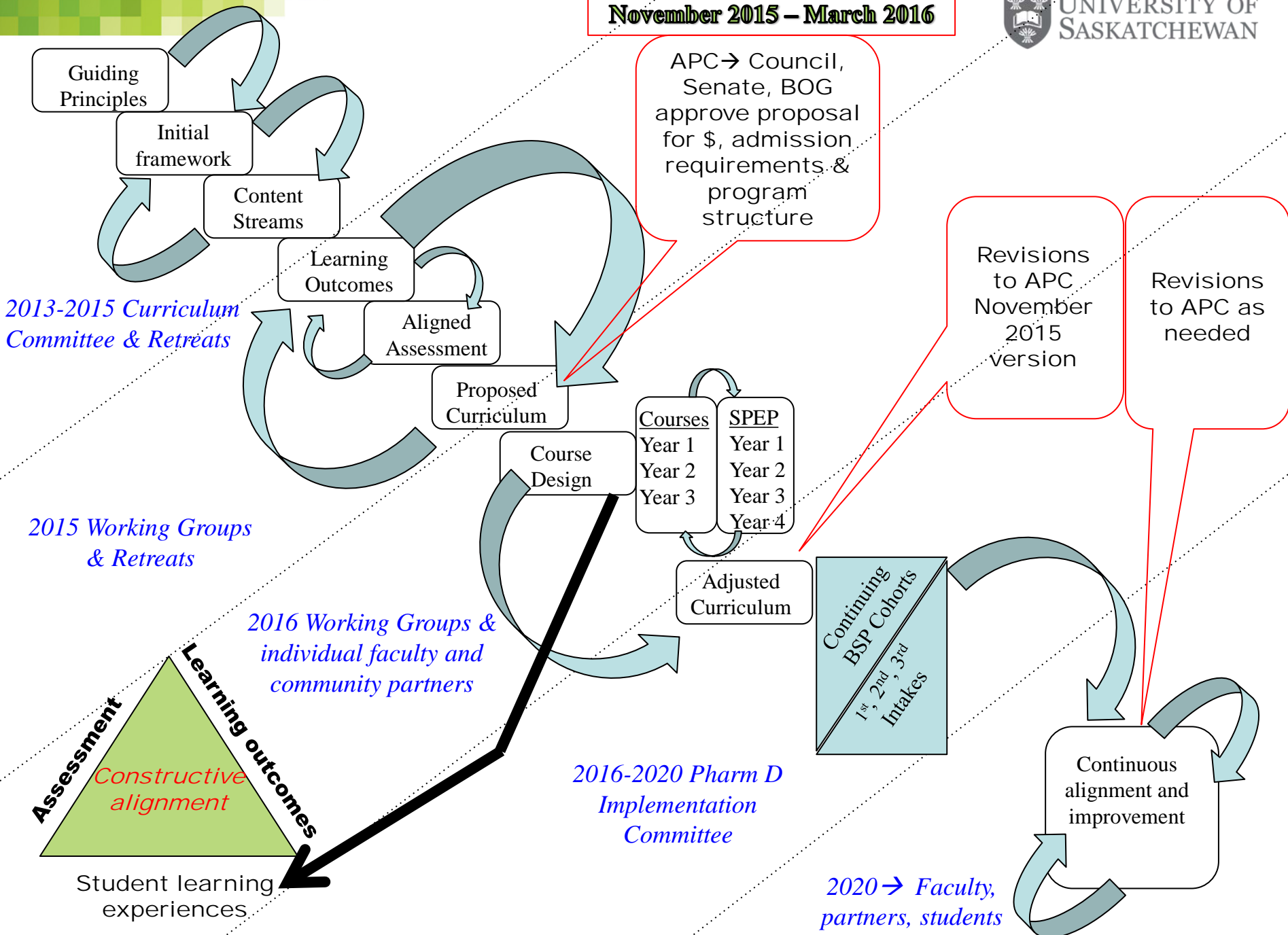
Appendix D

Comparison of Admission Methods (not academic average) (prepared and updated for the Admissions Working Group)

Method	Pros	Cons
Individual Interview (one interviewer)	<ul style="list-style-type: none"> • Candidate feels s/he can impress with personal qualities ("in-person" assessment) • Not much development of 'questions' required 	<ul style="list-style-type: none"> • Can be high degree of personal bias • Not standardized or validated • Costly in terms of personnel and time • Studies show weak or no correlation with program performance, and poor inter-rater reliability and validity • No recent studies (all >10 years old)
Panel Interview (1-3 interviewers independently assessing)	<ul style="list-style-type: none"> • Candidate feels s/he can impress with personal qualities • Can calculate inter-rater reliability, and adjust for it if needed • Not much development of 'questions' required 	<ul style="list-style-type: none"> • Less chance of bias because scores averaged OR dropped • Not usually standardized or validated • More costly because more personnel required • Studies show weak or no correlation with program performance, and poor inter-rater reliability and validity • No recent studies (all >10 years old)
PCAT	<ul style="list-style-type: none"> • Standardized • Administered outside of College • Cost born by candidate (~\$200) • Candidate data compared to others competing the same test • Effectiveness in candidate selection has been studied and published – strong predictor of grades, drop-out rates and success on licensing exam. Useful to add to GPA (increases correlation) 	<ul style="list-style-type: none"> • No 'in-person' assessment (candidate does not feel s/he has been 'heard') • Lots of 'prep' courses available • No College input as to what is assessed
California Critical Skills test (CCST) or Health Sciences Reasoning Test (HSRT)	<ul style="list-style-type: none"> • Appears to test some of what we desire for critical skills • Math component available • Some studies published – HSRT has current and more studies done by 3rd parties • Cost of ~\$10 per exam; \$5-10 more if including numeracy section 	<ul style="list-style-type: none"> • No 'in-person' component • No College input • Need cost assessment vs current options • CCST has few studies not done by authors; all old studies • No pharmacy or health science program uses as part of admissions
TCS & PP	<ul style="list-style-type: none"> • Quality of candidates entering our programs is good • TCS assesses one set of critical skills • Candidates all meet 'minimum' standard on TCS on entry • TCS and assessment of TCS developed and supervised by expert consultant • Participation of some faculty in assessment 	<ul style="list-style-type: none"> • No 'in-person' assessment so oral communication abilities still questioned for some candidates • Costly (most candidates assessed even though not likely to gain admission) • PP does not add much to assessment but can mean the difference between in position on list of candidates • Lack of participation of most faculty in assessment so faculty really do not 'know' the nature of candidate pool each year • Cost of \$23,000 (both TCS and PP combined)

Appendix D

Method	Pros	Cons
MMI	<ul style="list-style-type: none"> • Multiple 'stations' so can evaluate several characteristics, including some verbal communication skills (candidates feel this is 'fair' to all & allows them to show personal qualities) • Some early studies published • Many programs using this method • One evaluator per station but several tracks run at once so costs can be controlled • Could 'train' evaluators/ standardize them • Best positive evidence for an 'in-person' assessment 	<ul style="list-style-type: none"> • Logistics complicated • Costly • Because of cost, must narrow the pool of candidates using other criteria BEFORE offering MMI • MANY practice resources available to candidates on-line etc, including sample stations • Little published data on effectiveness across programs or done recently • Development of new stations also costly • Lack of validation of stations' effectiveness/reliability in selecting best candidates • Costly - \$10,000-25,000 or higher per year
Video Interview	<ul style="list-style-type: none"> • Do not have to schedule a set time for interview • Secure • No travel required for applicant • Reviewer can review at own time • Multiple people may review the applicant from any site • Moderate cost ~\$10,000 for first year, \$7,500/year onward • Choose own questions or from bank provided • Support provided • Applicant ease and satisfaction 	<ul style="list-style-type: none"> • Not in person • Not as comprehensive as the MMI • Potential for technical issues



University of Saskatchewan- College of Pharmacy and Nutrition

PharmD Course Descriptions

Draft Copy: October 19th, 2015

Course Title: PHAR 190.0; 290.0; 390.0: Bootcamp Orientations

Year 1, Year 2, and Year 3

For Years 1, 2, and 3 of the PharmD program, the students in each cohort will be required to participate in developmental programming that focuses on orientation to practice, self-regulated learning, personal well-being, and professional development. This will occur prior to Term 1 in each year of the program. Students will recognize the elements and requirements of the courses and experiential education in which they will participate in the upcoming year, including concepts that they need to review as pre-requisite knowledge. Students will identify personal motivations, goals, and strategies for mastery learning; adopt practices that foster self-directed learning, self-evaluation, and reflection; and develop competencies in selected areas required in the upcoming program year and for pharmacy practice.

Course Title: PHAR 110.3: Introduction to Pharmacy and the Health Care System

Year 1, Term 1, 3 credit units

Catalogue Description:

Students will recognize the social, behavioural and economic aspects of the profession of Pharmacy and its place in the Canadian health care system. Students will describe the roles and duties held by pharmacists and the role of and influences on the patient in drug therapy as well as the meaning of professionalism. Students will reflect on the patient experience including adherence, and health system navigation. Students will identify and discuss the key components of management and policy development and principles of pharmacoeconomics. Students will describe and explore cultural competency with attention to Aboriginal peoples of Canada.

Course Title: PHAR 111.1: Foundations for Practice: Pharmacy Mathematics and Calculations

Year 1, term 2, 1 credit unit

Catalogue Description:

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Students will master relevant pharmaceutical calculations and mathematical interpretation skills required for pharmacy practice. Students will perform calculations required for preparation of medications and pharmaceuticals. Students will detect and take steps to reduce common errors, interpret and express concentrations in multiple forms, and determine dosage calculations and quantities.

Course Title: PHAR 112.1: Pharmacy Law and Introduction to Ethics

Year 1, Term 2, 3 credit units

Catalogue Description:

Students will recognize and interpret the pharmacists' professional, ethical and legal obligations within provincial and federal frameworks. Students will describe the legal responsibilities and framework in pharmacy practice. Students will identify and interpret the laws and regulatory requirements associated with dispensing of prescription and non-prescription products. Students will assess and analyze the ethical dilemmas in pharmacy practices.

Course Title: PHAR 121.3: Foundational Sciences 1: Foundational Pathophysiology and Pharmacology 1

Year 1, term 1, 3 credit units

Catalogue Description:

Students will explain foundational principles of pharmacology and pathophysiology. Students will explain general etiology, pathogenesis, and clinical characteristics of pathological conditions. Students will explain basic principles in pathophysiology including a review of general organ function, common disease categories, and cellular injury and healing response. Students will explain principles of pharmacology including major indications, mechanisms of action, clinical effects, toxicological principles of adverse effects, and drug receptor interactions of each of the major drug classes. Concepts in this course are carried over into PHAR 123.3 in term 2.

Course Title: PHAR 122.3: Foundational Sciences 2: Medicinal Chemistry and Physical Pharmacy

Year 1, term 1, 3 credit units

Catalogue Description:

Students will explain concepts in medicinal chemistry and physical pharmacy. Students will describe various processes involved in leading to a drug action and adverse sequelae. Students will evaluate how structural changes in a drug class affects drug potency, formulation, and absorption, distribution,

metabolism and elimination. Students will identify the chemical basis of drug structures, acid/base reactions, binding interactions, metabolic sites of attack, and structural changes in drugs to optimize drug action. In the physical pharmacy component of this course students will explain thermodynamics, physical properties of drug molecules, intermolecular bonding, functional groups within a drug molecule, acidity and basicity, pH and PKa concepts.

Course Title: PHAR 123.3: Foundational Sciences 3: Foundational Pathophysiology and Pharmacology 2

Year 1, term 2, 3 credit units

Catalogue Description:

Building on concepts and topics introduced in PHAR 121.1, students will continue to explain foundational principles of pharmacology and pathophysiology. Students will describe general etiology, pathogenesis, and clinical characteristics of pathological conditions. Students will identify basic principles in pathophysiology including a review of general organ function, common disease categories, and cellular injury and healing response. Students will explain principles of pharmacology including major indications, mechanisms of action, clinical effects, toxicological principles of adverse effects, and drug receptor interactions of each of the major drug classes.

Course Title: PHAR 124.3: Foundational Sciences 4: Introduction to Pharmaceutics

Year 1, term 2, 3 credit units

Catalogue Description:

Students will describe and explain pharmaceutical dosage forms, devices, and designs. Students will describe and explain principles of extemporaneous compounding. Students will differentiate physiochemical properties of formulations including tablets, capsules, solutions, suspensions, powders and modified release formulations. Students will apply knowledge gained to select and explain various dosage forms for clinical situations.

Course Title: PHAR 151.1: Pharmacotherapy: foundations and general medicine

Year 1, term 1, 1 credit unit

Catalogue Description:

Students will identify foundational therapeutic concepts and treatments and demonstrate their understanding of disease states, pharmacologic treatment, and the patient experience in selected diseases. Students will identify and describe key elements or factors in selected disease states;

recognize and define the scientific principles that apply to these selected disease states; and outline typical patient experiences with respect to these selected disease states.

Course Title: PHAR 152.6: Pharmacotherapeutics 1

Year 1, term 2, 6 credit units

Catalogue Description:

Students will recognize disease states in non-complicated but common patient scenarios. Students will identify and describe disease states, pharmacologic treatment, the patient experience and patient and apply them to therapeutic situations. Students will recognize drugs employed in the treatment of the specific disease conditions with special regard to initial selection, medicinal chemistry, mechanisms of action, pharmacokinetics, common adverse and toxicological reactions, dosage regimen design and patient monitoring.

Course Title: PHAR 153.3 Self-Care 1: Non-prescription Pharmaceuticals and Supplies

Year 1, Term 1, 3 credit units

Catalogue Description:

Students will explain concepts of therapeutics with a focus on minor ailments, self-care, and pharmacist-directed care. Students will differentiate between conditions amenable to self or pharmacist-directed care, identify options and care pathways for common non-prescription pharmaceuticals and supplies for use by patients, and discern when referral is warranted and what referral is appropriate. This course continues in PHAR 154.3.

Course Title: PHAR 154.3 Self-Care 2: Non-prescription Pharmaceuticals and Supplies

Year 1, Term 2, 3 credit units

Catalogue Description:

Continuing from PHAR 153.3, students will explain and describe concepts of therapeutics with a focus on minor ailments, self-care, and pharmacist-directed care. Students will differentiate between conditions amenable to self or pharmacist directed care, identify options and care pathways for common non-prescription pharmaceuticals and supplies for use by patients, and discern when referral is warranted and what referral is appropriate.

Course Title: PHAR 162.3: Pharmacy Practice

Year 1, term 1, 3 credit units

Catalogue Description:

Students will recognize and describe the patient care process. Students will explain essential skills including patient counselling, profile reviews, patient interviews, medication history gathering, interpretation and verification of prescriptions, drug information, monitoring, follow-up, and communication skills. Patient-centered care will be emphasized.

Course Title: PHAR 170.3: Pharmacy Skills Development 1

Year 1, term 1, 3 credit units

Catalogue Description:

Students will recognize and participate in contemporary pharmacy practice in a simulated environment. Students will execute basic procedures in medication dispensing including the interpretation and verification of prescriptions, prescription processing, extemporaneous compounding, drug information skills, and application of appropriate laws and standards of practice. Students will begin to practice basic medication management utilizing the patient care process.

Course Title: PHAR 171.3: Pharmacy Skills Development 2

Year 1, term 2, 3 credit units

Catalogue Description:

Students will recognize and participate in contemporary pharmacy practice in a simulated laboratory environment. Students will execute basic procedures in extemporaneous compounding, prescription processing, medication dispensing, and basic medication management utilizing the patient care process. Students will connect medicinal products and concepts with pharmaceuticals and pharmacotherapeutic concepts including self-care. Students will apply mathematical calculations and adhere to legal and ethical frameworks while practicing and applying drug information and prescription processing skills.

Course Title: PHAR 181.1, Introductory SPEP 1

Year 1, term 1, 1 credit unit

Catalogue Description:

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Students will observe and gain pharmacy exposure and experience in various health care settings including hospital and community pharmacies, medSask, and the Medication Assessment Centre (MAC). Students will be introduced to self-study and reflection of their experience. This course continues in PHAR 182.1.

Course Title: PHAR 182.1: Introductory SPEP 2

Year 1, term 2, 1 credit unit

Catalogue Description:

This course is a continuation of PHAR 181.1. Students will continue to gain pharmacy exposure and experience in various sites including hospital and community pharmacies, medSask, and MAC. Students will continue to practice self-study and reflect on their experiences.

Course Title: PHAR 183.1: Service Learning 1

Year 1, term 1, 1 credit unit

Students will complete service-learning in a health care setting or community service organization to gain an appreciation of what care means to others. Students will engage in written and verbal reflection of these experiences. This course continues in PHAR 184.1.

Course Title: PHAR 184.1: Service-Learning 2

Year 1, term 2, 1 credit unit

Course Description:

Building on skills gained PHAR 183.1, students will continue to complete service-learning in a health care setting or community service organization to gain an appreciation of what care means to others. Students will engage in written and verbal reflection on these experiences.

Course Title: PHAR 185.4: SPEP 3 Introductory Community Pharmacy Practice Experience

Year 1, spring/summer, 4 credit units

Catalogue Description:

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This early experiential rotation occurs after completion of first year and before second year in the program for a duration of 4 weeks (120 hours). Students will begin to participate in direct patient care activities under the supervision of a qualified preceptor and begin to apply skills learned in patient care courses.

IPE

Course Title: PHAR 213.3: Management 1

Year 2, term 2, 3 credit units

Catalogue Description:

Students will connect general management and pharmacoeconomic principles with pharmacy practice and recognize and plan for the safe, effective, and efficient delivery of pharmacy services in practice in diverse communities and with culturally diverse populations. Students will recognize the advanced roles and duties of pharmacists to protect patient interests and ensure safety and quality control. Students will identify the key aspects of effective participation in interprofessional and intraprofessional health care teams.

Course Title: PHAR 224.3: Science of Pharmacotherapy 1: Pharmaceutics and Pharmaceutical Biotechnology

Year 2, term 1, 3 credit units

Catalogue Description:

Building on concepts learned in PHAR 124.3 students will continue to describe pharmaceutical dosage forms, devices, and designs. Students will apply extemporaneous compounding principles to formulate and differentiate emulsions, semisolid, suppositories, injectables, topicals, patches and various devices including metered dose inhalers, dry-powder inhalers, and nebulizers. Students will select and explain appropriate dosage forms for specific clinical situations. Students will explain concepts and biopharmaceutical principles and differentiate between biopharmaceutical products. Students will summarize concepts in pharmaceutical biotechnology.

Course Title: PHAR 225.3: Science of Pharmacotherapy 2: Clinical Applications

Year 2, term 2, 3 credit units

Catalogue Description:

Students will integrate foundational scientific concepts taught including clinical pharmacokinetics, pharmacodynamics, and bioequivalence and use them to solve complex therapeutic problems.

Course Title: PHAR 226.3: Foundational Sciences 5: Pharmacokinetics

Year 2, term 1, 3 credit units

Catalogue Description:

Students will explain foundational pharmacokinetic principles including influence of dosage regimen, therapeutic window and routes of administration on absorption, distribution, metabolism, and excretion of drugs. Students will interpret pharmacokinetic concepts and apply principles taught to illustrate solutions and resolution to clinical cases and therapeutic problems.

Course Title: PHAR 253.6: Pharmacotherapeutics 2

Year 2, term 1, 6 credit units

Catalogue Description:

Students will identify and describe disease states, pharmacologic treatment, and the patient experience. Students will connect and begin to integrate disease states. Students will recognize drugs employed in the treatment of specific disease conditions with special regard to initial selection, medicinal chemistry, mechanisms of action, pharmacokinetics, common adverse and toxicological reactions, dosage regimen design and patient monitoring.

Course Title: PHAR 255.6: Pharmacotherapeutics 3

Year 2, term 2, 6 credit units

Catalogue Description:

Students will describe and explain disease states, pharmacologic treatment, and the patient experience. Students will connect and continue to integrate selected disease states. Building on knowledge and skills of previous therapeutics and pharmacoscience courses students will analyze disease states and explain the rationale for individualized pharmacologic treatments that address patient concerns, including the evidence for those decisions. Students will describe drugs employed in the treatment of the specific disease conditions with special regard to initial selection, medicinal chemistry, mechanisms of action,

Appendix F

pharmacokinetics, common adverse and toxicological reactions, dosage regimen design and patient monitoring.

Course Title: PHAR 262.1: Pharmacy Practice 2

Year 2, term 1, 3 credit units

Catalogue Description:

Students will connect concepts learned in the didactic portion of the curriculum with concepts of the patient care process practiced and applied in the skills lab. Students will discuss skills, behaviors, and issues relevant to contemporary pharmacy practice. Students will be introduced to and practice professional communication, self-directed learning, critical thinking, problem solving, drug information, medication administration, and physical assessment skills. Students will begin to develop and demonstrate attitudes and practice behaviors that will guide their professional development and practice including ethical and culturally respectful practice.

Course Title: PHAR 263.1: Pharmacy Practice 3

Year 2, term 2, 3 credit units

Catalogue Description:

Students will integrate concepts learned to date with the patient care process as practiced and applied in the skills lab. Students will discuss and explain skills, behaviors, and issues relevant to contemporary pharmacy practice. Students will practice professional communication, collaboration, self-directed learning, critical thinking, problem solving, drug information gathering, medication administration, and physical assessment skills. Students will describe the importance of interprofessional collaboration and practice. Students will begin to develop and demonstrate attitudes and practice behaviors that will guide their professional development and practice, including ethical and culturally respectful practice.

Course Title: PHAR 271.3: Evidence Based Medicine

Year 2, term 1, 3 credit units

Catalogue Description:

Students will recognize and value the role of research and evidence-based medicine in pharmacy practice. Students will use principles of scientific inquiry and critical appraisal to identify and evaluate the quality and validity of resources and information used in pharmacy practice as well as applicability of resources and information to answer health related questions.

Course Title: PHAR 272.3: Pharmacy Skills Development 3

Year 2, term 1, 3 credit units

Catalogue Description:

In a simulated practice environment, students will practice and apply essential skills and methods of the patient care process incorporating topics covered in the didactic portion of the curriculum including social-behavioral, pharmacotherapeutic and pharmacoscience concepts. Students will practice and apply drug information skills, prescription processing skills, medication administration, and physical assessment skills.

Course Title: PHAR 273.3: Pharmacy Skills Development 4

Year 2, term 2, 3 credit units

Catalogue Description:

In a simulated practice environment, students will practice and apply essential skills and methods of the patient care process incorporating more complex disease states in different and diverse practice settings, and including social- behavioral, pharmacotherapeutic and pharmacoscience concepts. Students will practice and apply drug information gathering and dissemination skills, prescription processing and checking skills, medication administration, and physical assessment skills.

Course Title: PHAR 281.1 SPEP 4

Year 2, term 1, 1 credit units

Catalogue Description:

Building on knowledge and skills gained in first year courses and practical experiences, students will continue to obtain pharmacy experience and demonstrate skills in various sites including hospital and community pharmacies, medSask, and MAC. Students will practice self-study and reflection of their experience.

Course Title: PHAR 282.1 SPEP 5

Year 2, term 1, 1 credit unit

Catalogue Description:

Building on skills and knowledge gained in previous courses and practical experiences, students will continue to obtain pharmacy experience and demonstrate skills in various sites including hospital and community pharmacies, medSask, and MAC. Students will continue to practice self-study and reflection of their experiences.

Course Title: PHAR 283.4 SPEP 6 : Hospital Pharmacy Practice Experience

Year 2, spring/summer, 4 credit units

Catalogue Description:

This early experiential education rotation occurs after completion of second year and before third year for a 4 week (120 hour) duration. Students participate in direct patient care activities to expand professional and patient care skills learned in previous practical experiences and courses in a hospital practice setting under the supervision of a qualified preceptor.

IPE

Course Title: PHAR 314.3: Management 2/Issues in Health Care and Pharmacy

Year 3, term 1, 3 credit units

Catalogue Description:

Students will translate components of management and policy development to the pharmacy profession, including strategic planning, human and financial resource management, quality control and improvement, and emerging technologies in practice. Students will incorporate considerations related to social-behavioural issues in pharmacy practice, including links between social determinants of health and the historical and contemporary experiences of Aboriginal, Inuit, and Metis people in Canada. Students will explore pharmacy career choices.

Course Title: PHAR 315.3: Issues in Health Care and Pharmacy Practice

Year 3, term 2, 3 credit units

Catalogue Description:

Students will critique current pharmacy and health care related issues and extend analysis and debate on topics relevant to their future role as health care practitioners. Students will compare and contrast key points of contention or controversy on selected topics and explain and argue for a point of view. Students will discuss evaluation and improvement of health care and pharmacy practice. Students will

model culturally respectful communication in multiple forms and will articulate a personal philosophy for leadership and professionalism in pharmacy practice.

Course Title: PHAR 324.3: Science of Pharmacotherapy 3: Toxicology

Year 3, term 1, 3 credit units

Catalogue Description:

Students will recognize the links between foundational sciences and explain how basic principles can be used to improve clinical therapy. Students will interpret basic toxicology problems in practice, drug development, and in medical research. Students will employ problem-solving skills with scientific principles, while taking patient concerns into consideration to find solutions to therapeutic problems. Students will make decisions related to drug therapy using foundational scientific knowledge.

Course Title: PHAR 358.6: Pharmacotherapeutics 5

Year 3, term 1, 6 credit units

Catalogue Description:

Students will analyze disease states, pharmacologic treatment, and the patient experience. Students will analyze and begin to integrate pharmacy principles and practices for multiple disease states. Students will differentiate and evaluate disease states in terms of advanced pharmacologic treatments and patient concerns. Students will explain, using therapeutic rationale, the pharmacologic treatment approach in complex cases, including the evidence for those decisions. Students will explain drugs employed in the treatment of the specific disease conditions with special regard to initial selection, medicinal chemistry, mechanisms of action, pharmacokinetics, common adverse and toxicological reactions, dosage regimen design and patient monitoring.

Course Title: PHAR 359.6: Pharmacotherapeutics 6

Year 3, term 2, 6 credit units

Catalogue Description:

Students will evaluate disease states, pharmacologic treatment, and the patient experience. Students will begin to extrapolate their existing body of pharmacy knowledge for analysis and evaluation of pharmacologic treatments with respect to patient concerns. Students will explain, using scientific and therapeutic rationale, the pharmacologic treatment approach in complex cases, including the evidence for those decisions.

Course Title: PHAR 367.1: Pharmacy Practice 5

Year 3, term 1, 1 credit unit

Catalogue Description:

Students will integrate concepts learned to date with the patient care process practiced and applied in the pharmacy practice skills lab. Students will apply and demonstrate skills, behaviors, and issues relevant to contemporary pharmacy practice. Students will practice professional communication, advocacy, management, mentorship, collaboration, self-directed learning, critical thinking, problem solving, drug information gathering, medication administration, use of information technology, and physical assessment skills. Students will demonstrate attitudes and practice behaviors that will guide their professional development and practice.

Course Title: PHAR 368.1: Pharmacy Practice 6

Year 3, term 2, 1 credit unit

Catalogue Description:

Students will integrate and extrapolate concepts learned to date with the patient care process as practiced and applied in the skills lab. Students will self-evaluate and refine skills, behaviors, and issues relevant to contemporary pharmacy practice. Students will practice professional communication in challenging circumstances, as well as, advocacy, collaboration, management, self-directed learning, critical thinking, problem solving, drug information gathering, medication administration, physical assessment skills, use of information technology, and prescribing. Students will demonstrate attitudes and behaviors that will guide their professional development and practice.

Course Title: PHAR 374.3: Pharmacy Skills Development 5

Year 3, term 1, 3 credit units

Catalogue Description:

In a simulated practice environment, students will practice and apply essential skills and methods of the patient care process incorporating patient concerns and topics including social behavioral, pharmacotherapeutic and pharmacoscience content covered in the didactic portion of the curriculum in complex patients with complex problems. Students will practice and apply drug information skills, prescription processing and checking skills, medication administration, physical assessment skills, use of information technology, collaboration with technicians, and prescribing.

Course Title: PHAR 375.3: Pharmacy Skills Development 6

Year 3, term 2, 3 credit units

Catalogue Description:

In a simulated practice environment students will extend the skills and methods of the patient care process to complex cases. Students will adapt their drug information gathering skills, prescription processing and checking skills, medication administration, and physical assessment skills in order to assess and respond to cases involving complex disease states and complex patient concerns. Students will practice and apply cumulative skills.

Course Title: PHAR 384.1 SPEP 7

Year 3, term 1, 1 credit unit

Catalogue Description:

Building on knowledge and skills gained in previous courses and practical experiences, students will continue to develop applied pharmacy experiences in various sites including hospital and community pharmacies, medSask, and MAC. Students will practice self-study and reflection of their experience, showing increasing ability to think critically and set goals as they monitor their own performance and progress.

Course Title: PHAR 385.1 SPEP 8

Year 3, term 2, 1 credit unit

Catalogue Description:

Building on knowledge and skills gained in previous courses and practical experiences, students will continue to develop applied pharmacy experiences and demonstrate skills in various sites including hospital and community pharmacies, MedSask, and MAC. Students will continue to practice self-study and reflection of their experience, showing increasing ability to think critically and set goals as they monitor their own performance and progress.

Course Title: PHAR 391.3: Preparing for Patient Care/Complex Cases (Capstone)

Year 3, term 2, 3 credit units

Catalogue Description:

In this capstone course the student will consolidate concepts and principles taught throughout the program including pharmaceutical sciences, pharmacotherapeutics, social- behavioural sciences and pharmacy skills. Students will apply concepts to solve drug therapy problems and provide effective patient care through use of simulations. Students will demonstrate skills in critical thinking, self-reflection, decision-making, life-long learning, advocacy, leadership, management, and professionalism. Students will present research information in multiple formats including presentations, posters, or papers to demonstrate essential professional competencies. Students will complete a comprehensive examination before beginning advanced experiential rotations.

IPE

ELECTIVE

Course Title: PHAR 487.1, PHAR 488.1; PHAR 489.1: Integrating Seminar

Year 4; 1 credit unit each

Catalogue Description:

Senior students will discuss, debrief, and analyze experiences from advanced practice experiences and issues in practice with peers and faculty in-person and/or remotely.

Course Title: PHAR 481.8: Advanced Practice Experience 1: Acute care (hospital) experience

Year 4, 8 credit units

Catalogue Description:

This advanced pharmacy practice experience occurs in a core acute care (hospital) setting for a duration of 8 weeks (320 hours). Students will provide direct patient care in a clinical setting under the supervision of a qualified preceptor.

Course Title: PHAR 482.8: Advanced Practice Experience 2: Community Pharmacy Experience

Year 4, 8 credit units

Catalogue Description:

Appendix F

This advanced pharmacy practice experience occurs in a core community pharmacy location for a duration of 8 weeks (320 hours). Students will provide direct patient care and services in a clinical setting under the supervision of a qualified preceptor.

Course Title: PHAR 483.8: Advanced Practice Experience 3: Other Direct Patient Care Experience

Year 4, 8 credit units

Catalogue Description:

This advanced pharmacy practice experience may occur in a variety of selected sites that provide direct patient care services for a duration of 8 weeks (320 hours). Settings may include but are not limited to hospital, community, ambulatory care, primary care, and specialty sites; serving a variety of patients not limited to acute care, infectious diseases, psychiatric, long term care and specialty populations. Students will provide direct patient care and participate in a variety of direct patient care activities under supervision of a qualified preceptor.

Students would do either 484 or both 485 and 486

Course Title: PHAR 484. 8: Advanced Practice Experience 4: Elective Practice Experience

Year 4, 8 credit units

Catalogue Description:

This advanced pharmacy practice experience may occur in a variety of practice sites that provide a variety of professional activities. These include but are not limited to research, association, advocacy, administration, management, drug information, industry, or project based rotations under the supervision of a qualified preceptor. This rotation occurs for a duration of 8 weeks (320 hours) under supervision of a qualified preceptor.

Course Title: PHAR 485.4: Advanced Practice Experience 5: Elective APPE 5

Year 4, 4 credit units

Catalogue Description:

This advanced pharmacy practice experience may occur in practice sites that provide primarily non-direct patient care activities for a duration of 4 weeks (160 hours). These include but are not limited to research, association, advocacy, administration, management, drug information, industry, or project

Appendix F

based rotations under the supervision of a qualified preceptor. PHAR 486.4 is a co-requisite for this course.

Course Title: PHAR 486.4: Advanced Practice Experience 6: Elective APPE 6

Year 4, 4 credit units

Catalogue Description:

This advanced pharmacy practice experience may occur in a variety of practice sites that provide a variety of professional activities. These include but are not limited to research, association, advocacy, administration, management, drug information, industry, or project based rotations under the supervision of a qualified preceptor. This rotation occurs for duration of 4 weeks (160 hours) under supervision of a qualified preceptor. PHAR 485.4 is a co-requisite for this course.

DRAFT Timetable for PharmD

Skills Lab Schedule – 4 lab sections in year 1 and 3 lab sections per years 2 and 3 (labs are 2.5 hours)										
	Monday		Tuesday		Wednesday		Thursday		Friday	
	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2
8:00	Year 3	Year 3			Year 3	Year 3			Year 3	Year 3
8:30										
9:00										
9:30										
10:00										
10:30										
11:00	Year 2	Year 2			Year 2	Year 2			Year 2	Year 2
11:30										
12:00										
12:30										
1:00										
1:30										
2:00	Year 1	Year 1	Year 1	Year 1	Reserved for IPE		Year 1	Year 1	Year 1	Year 1
2:30										
3:00										
3:30										
4:00										
4:30										
5:00										

Year 1 schedule with 4 lab sections										
	Monday		Tuesday		Wednesday		Thursday		Friday	
	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2
8:00										
8:30	121	123			121	123			121	123
9:00										
9:30	122	124			122	124			122	124
10:00			153	154			153	154		
10:30	162				162				162	
11:00										
11:30	151	152	110	112		152	110	111		152
12:00										
12:30										
1:00										
1:30										
2:00	170 or SPEP or Service Learning or self study or tutorials	171 or SPEP or Service Learning or self study or tutorials	170 or SPEP or Service Learning or self study or tutorials	171 or SPEP or Service Learning or self study or tutorials	Reserved for IPE		170 or SPEP or Service Learning or self study or tutorials	171 or SPEP or Service Learning or self study or tutorials	170 or SPEP or Service Learning or self study or tutorials	171 or SPEP or Service Learning or self study or tutorials
2:30										
3:00										
3:30										
4:00										
4:30										
5:00										

Year 2 schedule with 3 lab sections										
	Monday		Tuesday		Wednesday		Thursday		Friday	
	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2
8:00			SPEP or self study or tutorials	SPEP or self study or compounding			SPEP or self study or tutorials	SPEP or self study or compounding		
8:30					262	263				
9:00										
9:30	224	225			224	225			224	225
10:00										
10:30										
11:00	272 or tutorials or self study	273 or tutorials or self study			272 or tutorials or self study	273 or tutorials or self study			272 or tutorials or self study	273 or tutorials or self study
11:30			274	213			274	213		
12:00										
12:30										
1:00										
1:30										
2:00	253	255	253	255	Reserved for IPE		SPEP or self study or tutorials	SPEP or self study or tutorials	253	255
2:30										
3:00										
3:30										
4:00										
4:30										
5:00										

Year 3 schedule with 3 lab sections										
	Monday		Tuesday		Wednesday		Thursday		Friday	
	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2	Term 1	Term 2
8:00	374 or tutorials or self study	375 or tutorials or self study			374 or tutorials or self study	375 or tutorials or self study			374 or tutorials or self study	375 or tutorials or self study
8:30			314	315			314	315		
9:00										
9:30										
10:00			324	325			324	325		
10:30										
11:00	358	359			358	359			358	359
11:30			367	368				391		
12:00										
12:30										
1:00										
1:30	SPEP or tutorials or self study	SPEP or tutorials or self study	SPEP or tutorials or self study	SPEP or tutorials or self study	Reserved for IPE		SPEP or tutorials or self study	SPEP or tutorials or self study	SPEP or tutorials or self study	SPEP or tutorials or self study
2:00										
2:30										
3:00										
3:30										
4:00										
4:30										
5:00										

Note: electives could be on afternoons

Prepared Sept 15, 2015

[illegible]

Prepared September 15, 2015

E = Elective			
H = Hosp			
C, C1, C2 = Comm			
PC = other patient care rotation			
S = Self study			
MAC = MAC			
MSK - medSask			
O = Orientation			
X = Student not on rotation			



Pharmacy Department
Saskatoon Health Region
103 Hospital Drive
Saskatoon, SK
S7N 0W8

Phone: (306)655-2262
Patrick.robertson@saskatoonhealthregion.ca

October 2, 2015

Dean Kishor Wasan:

On behalf of the Saskatoon Health Region Pharmacy Department, I am writing to express our support for the College of Pharmacy's move to a Pharm D first professional degree program. With the move to two pre-Pharmacy years followed by a four-year degree program, young professionals should enter the work-force better prepared to provide care to the residents of Saskatchewan.

A noted change to the program is the requirements for increased exposure to experiential training. The Saskatoon Health Region acknowledges the vital role they will play in the provision of this training to Pharmacy students. Students will be exposed to hospital pharmacy practice earlier and for longer periods of time. It is hoped this will increase the number of graduates who choose a career in hospital pharmacy practice. We look forward to continuing to work closely with faculty to ensure the experiential training models are well developed and appropriately funded to meet our mutual goals.

In summary, the Saskatoon Health Region Pharmacy Department endorses this curriculum change and recognizes the integral role the program will play in educating the future pharmacists of Saskatchewan.

With kind regards,

A handwritten signature in black ink, appearing to read "Patrick Robertson", with a long horizontal flourish extending to the right.

Patrick Robertson BSP, Pharm. D
Director
Pharmacy Department
Saskatoon Health Region

Sept. 30, 2015

Dr. Kishor Wasan
Dean, College of Pharmacy and Nutrition
University of Saskatchewan
E3122 – 104 Clinic Place
Saskatoon, Sask. S7N 2Z4

Dear Dr. Wasan,

This letter is in support of the proposed Pharm D. program within the College of Pharmacy and Nutrition at the University of Saskatchewan.

Pharmacy practice at the Regina Qu'Appelle Health Region has become very patient centered requiring pharmacists to be more actively involved with the inter-disciplinary care team. To do this effectively, pharmacists need to be trained at a higher level to ensure their interaction with the team produces the most effective medication therapy for each patient with the safety they deserve. A pharm D curriculum is exactly what is needed to make this a reality.

My team has been very pleased on how we have been involved in the development of the proposal. The discussions that we have been part of in the planning, has led to a proposed increased number and longer length of experiential placements which will create pharmacists who are more able to work effectively on the patient care team. We do recognize that we will be asked to provide much of that placement experience. Assuming we are provided with the necessary resources to make this occur, it will be worth the effort. We know that the graduates of this program will have the required skills and education to provide the high level of pharmacy practice needed within our region and ultimately better patient care.

I truly hope this proposal gets accepted and funded accordingly so that the patients of Saskatchewan get the care they deserve.

Sincerely,



Kelly Babcock B.S.P., ACPR, FCSHP
Director of Pharmacy
Regina Qu'Appelle Health Region

14 October 2015

Dr. Kishor Wasan
Dean, College of Pharmacy and Nutrition
University of Saskatchewan
E3122 – 104 Clinic Place
Saskatoon, SK

Dear Dr. Wasan,

On behalf of the members of the Canadian Society of Hospital Pharmacists – Saskatchewan Branch, I would like to extend our support for the development of a PharmD program at the University of Saskatchewan College of Pharmacy and Nutrition.

The increased complexity of health care coupled with the expanding scope of practice for pharmacists in Saskatchewan calls for highly trained and competent pharmacists to be entering the workforce. With the advanced education plan that is currently being developed by the faculty, it is the hope of our members that the new PharmD program will support the increasing scope of practice for pharmacists in Saskatchewan and the changing needs of our patients.

Our members look forward to being involved with the planning and preparation that is currently underway, and we continue to extend our support and assistance in development and delivery of this program.

On behalf of the members of CSHP-Saskatchewan branch, thank you for embarking on this endeavor to improve patient care through the enhancement of education for the next generation pharmacists.

Sincerely,



Jennifer Bolt BSc.Pharm., ACPR, PharmD
President, Canadian Society of Hospital Pharmacists – Saskatchewan Branch
president@cshp-sk.org



October 14th, 2015

Dr. Kishor Wasan
Dean, Faculty of Pharmacy and Nutrition
University of Saskatchewan
Via email

Dear Dr. Wasan:

I am pleased to provide this letter of qualified support for the entry level PharmD program that the Faculty of Pharmacy and Nutrition at the University of Saskatchewan intends to implement. I must note that our Board has not yet formally provided their support but that is an issue mostly of timing vs any concerns with the new PharmD program development.

With that caveat, the Pharmacy Association of Saskatchewan supports both the concept and need for a PharmD program. We have been consulted on this new program and look forward to being involved appropriately in its development and implementation.

The practice of pharmacy is evolving such that pharmacists are forging new roles in patient care by accepting greater responsibility and patients are accessing their pharmacists to meet more of their health and wellness needs. As I understand it, this new program supports this evolution by ensuring that new pharmacist graduates have much greater experiential learning opportunities. This approach will ensure that new pharmacist graduates have the necessary knowledge and experience that will allow them to sharpen their critical thinking, clinical decision making and interprofessional skill sets.

We look forward to working with you on this important educational initiative.

Sincerely,



Dawn Martin
CEO



Weyburn General Hospital – Department of Pharmacy Services
201 1st Avenue NE, Weyburn, Saskatchewan S4N 0N1
Phone 306-842-8235; Fax 306-842-0064

October 1, 2015

To: Dr. Yvonne Shevchuk

Re: Pharm D Curriculum Update

On behalf of Sun Country Health Region (SCHR) I am pleased to offer my support for the proposed update to the College of Pharmacy and Nutrition undergraduate pharmacy curriculum. Since my return to Saskatchewan in the fall of 2003 I have had the opportunity to precept a number of students from a variety of years of the program. Additionally I have had many opportunities to work with the faculty of the College on a variety of levels. All of these interactions have proven to be educational and professionally rewarding. SCHR has a history of taking on both third and fourth year pharmacy students whenever opportunities have arisen. These students not only provide preceptors with an opportunity to give back to the College and their profession but also with an opportunity for the preceptor to learn new things as well.

The complexity of medication management and the patients we see daily has increased exponentially since I graduated from the College in 1996. The competencies now required by pharmacists to be medication therapy experts can only be achieved with an expansion of the current curriculum to an undergraduate Pharm D. The potential opportunity to build expanded SPEP rotations into the SCHR pharmacy department represents opportunity for expanded patient care for the residents of the region. The expertise that the students will bring coupled with the experience the pharmacists currently working in SCHR possess will result in improved patient care immediately. We are excited and look forward to the opportunity to work with students on a regular and consistent basis. Rural settings offer unique opportunities for students to learn about multidisciplinary team based care. Additionally the students are able to see a large variety of patients with unique needs. Rural regions also provide opportunity for primary care activities that aren't always available in the urban setting.

The role of pharmacists has changed significantly over the past twenty years. It is important that the curriculum at the College of Pharmacy and Nutrition also be adapted to ensure that the students are given the tools they need to appropriately care for their patients. The entry level Pharm D represents that opportunity for both the students and the professional to continue to evolve into the new expanded roles pharmacists hold in the health care system.

Sincerely

A handwritten signature in black ink, appearing to read "Kim Borschowa", with a long horizontal line extending to the right.

Kim Borschowa, BSP, CDE



SASKATCHEWAN
COLLEGE OF
PHARMACY
PROFESSIONALS

700 - 4010 PASQUA STREET

REGINA, SASKATCHEWAN

S4S 7B9

info@saskpharm.ca

TEL: (306) 584-2292

FAX: (306) 584-9695

SASKPHARM@SASKTEL.NET

October 20, 2015

File: U750.20

Dr. Kishor Wasan
College of Pharmacy & Nutrition
University of Saskatchewan
110 Science Place
116 Thorvaldson Building
Saskatoon SK S7N 5C9

Dear Kish:

Re: Proposed PharmD

QUALITY PHARMACY CARE
IN SASKATCHEWAN

We are pleased to provide this letter of support for the concept of a PharmD as the first professional degree for entry into the profession in this province.

With the proclamation of Bill 151 on October 5, 2015, creating "*The Pharmacy and Pharmacy Disciplines Act*" we continue to have the authority to recognize credentials for entry to practice, including the proposed PharmD. While we plan to continue to recognize the baccalaureate degree to practice as a pharmacist, we also plan to adapt to this new degree like we have done with similar changes in the past to accept it as the entry to practice credential.

We look forward to continuing our involvement as the College of Pharmacy and Nutrition moves through the curriculum development process, and extend our best wishes for a successful conclusion to this initiative.

Sincerely,

A handwritten signature in blue ink, appearing to read "R. J. Joubert", written over a horizontal line.

R. J. (Ray) Joubert, BSP
Registrar

RJ/ac

October 23, 2015

University of Saskatchewan,

Please accept this document as a letter of support for the development and implementation of the PharmD program on behalf of the pharmacy student body of the University of Saskatchewan College of Pharmacy and Nutrition.

With the current scope of practice for pharmacists rapidly expanding, we feel as though pharmacy education must proactively evolve. Expanding the current Bachelor of Science in Pharmacy program into a PharmD program is the best action for this institution to take in order to fulfill the professional commitment to support the evolving profession. The redeveloped curriculum will best equip prospective students with the practice tools and skills required to be an effective professional within current health care practice. Our colleagues in other Pharmacy faculties across Canada have also begun phasing out Bachelor of Pharmacy programs in favour of PharmD programs. Naturally, we feel that it is important that the University of Saskatchewan advances its program. This will enable Saskatchewan graduates to remain competitive within the pharmacy job market by having the most advanced and relevant credentials possible. Furthermore, Saskatchewan graduates will be more likely to be retained in the province of Saskatchewan.

The aforementioned comments are non-exhaustive of our support for the implementation of the PharmD program. We look forward to continuing to be involved in the development process of this new PharmD program and would be pleased to discuss further.

Sincerely,

Saskatchewan Pharmacy and Nutrition Student Society

Signed,



Taylor Raiche - Saskatchewan Pharmacy and Nutrition Student Society Pharmacy Co-President

Jayesh Changela – PharmD Experiential Working Group Student Representative



Appendix J: Proposed Budget - PharmD Program (October 23, 2015)

	2015-2016	2016-2017	2017-2018	2018-2019	2019-2020	2020-2021
Budget Envelope - assume 1%, 1% then 2% increase	6,821,573.00	6,889,788.73	6,958,686.62	7,097,860.35	7,239,817.56	7,384,613.91
Strategic Initiative Funding - Central Government for SPEP		300,000.00 400,000.00	400,000.00 200,000.00	300,000.00		
Incremental Tuition Revenue @ 73%	-	-	512,460.00	1,077,134.86	1,669,723.18	2,291,267.70
Total Revenue	6,821,573.00	7,589,788.73	8,071,146.62	8,474,995.21	8,909,540.73	9,675,881.60
Existing Payroll (3% increase each year)	6,285,104.00	6,473,657.12	6,667,866.83	6,867,902.84	7,073,939.92	7,286,158.12
Existing Other (1% annual increase)	450,000.00	454,500.00	459,045.00	463,635.45	468,271.80	472,954.52
PharmD requirements						
Payroll						
SPEP Office Staff		55,000.00	166,650.00	316,649.50	326,148.99	335,933.45
Lecturers			110,000.00	-	-	
MedSask - Phase in .25FTE per year to 1 FTE			28,750.00	59,225.00	91,502.62	125,663.61
MAC - Phase in .25 FTE per year to 1 FTE			28,750.00	59,225.00	91,502.62	125,663.61
Faculty Positions				120,000.00	243,600.00	370,908.00
Additonal Administrative Support		50,000.00	51,500.00	53,045.00	54,636.35	56,275.44
Goods/Services						
Curriculum Mapping Software + SPEP Scheduling		40,000.00	40,800.00	41,616.00	42,448.32	43,297.29
CLRC Costs		-	30,000.00	30,000.00	50,000.00	60,000.00
Preceptor Training		30,000.00	30,000.00	50,000.00	50,000.00	30,000.00
IT		-	80,000.00	81,600.00	83,232.00	84,896.64
Teaching Resources at SPEP Sites			40,000.00	40,000.00	20,000.00	20,000.00
Short Term						
Development online Law/Calc courses		20,000.00	5,000.00	5,000.00	5,000.00	5,000.00
Internship cost phase in (On-site SPEP Coordinators and Preceptors)		400,000.00	300,000.00	200,000.00	300,000.00	400,000.00
Total Expenses	6,735,104.00	7,523,157.12	8,038,361.83	8,387,898.79	8,900,282.62	9,416,750.69
Surplus/(Deficit)	86,469.00	66,631.61	32,784.78	87,096.42	9,258.11	259,130.92

***NOTE: This budget does not address the Nutrition portion of the internship funding that will be required in future years as this is a Nutrition issue not a PharmD issue.

Table 7 : Budget Needs for PharmD Program (Revised Oct 21 2015)

Academic Year	Budget Item – Ongoing Expense - Personnel	Budget Item – Ongoing – Goods and Services	Budget Item – One-Time Expense
2016-17	SPEP Office: Director (1.0 FTE) (planning for PharmD) (ASPA) Coordinator 1 (1.0 FTE) (BSP Program) (ASPA) (could be extension of 2015-16 position) Secretary: 0.5 FTE (CUPE) Practice and Preceptor Development Coordinator (1.0 FTE, <u>hire Jan 2017</u>) ASPA	SPEP Scheduling Software: eValue \$95 x 360 students - \$34,300 per yr (also does curriculum mapping) OR RxPreceptor: \$13,500 per yr + mapping software Admissions: as before + KIRA interviews - \$10,000 Contribution to CLRC: IT person: 1.0 FTE	Education and training expenses for preceptors (for Y1): Development of on-line resources for Law and Calculations courses: \$20,000
2017-18	SPEP Office: Director (1.0 FTE) (planning for PharmD and coordinates remediation) (ASPA) SPEP Coordinator 1 (1.0 FTE) (BSP Program plus y1) (ASPA) Practice and Preceptor Development Coordinator (1.0 FTE, <u>hire Jan 2017</u>) ASPA Secretary: 0.5 FTE (CUPE) On-site Preceptors (Hosp): 1.0 FTE	SPEP Scheduling Software: eValue \$95 x 360 students - \$34,300 per yr (also does curriculum mapping) OR RxPreceptor: \$13,500 per yr + mapping software Admissions: as before + KIRA interviews - \$10,000 Contribution to CLRC: \$30,000 IT: 1.0 FTE MAC: 0.25 FTE (pharm) medSask: 0.25 FTE (phm) Preceptor Training and Support:	Faculty, Term positions or sessionals: 1 FTE to cover double teaching because of 2 programs Increased lab supplies for double teaching Travel expenses to set up new SPEP sites Education and training expenses (eg programs) for preceptors (for Y2and Y3)
2018-19	SPEP Office: Director (1.0 FTE) (planning for PharmD & coordinates remediation) (ASPA) SPEP Coordinator 1 (1.0 FTE) (BSP Program plus Y1 & Y2) (ASPA) Practice and Preceptor Development Coordinator (1.0 FTE) ASPA	SPEP Scheduling Software: eValue \$95 x 360 students - \$34,300 per yr (also does curriculum mapping) OR RxPreceptor: \$13,500 per yr + mapping software Admissions: as before + KIRA interviews - \$10,000	Faculty, Term positions or sessionals: 2 FTE to cover double teaching because of 2 programs Increased lab supplies for double teaching Travel expenses to set up new SPEP sites

Academic Year	Budget Item – Ongoing Expense - Personnel	Budget Item – Ongoing – Goods and Services	Budget Item – One-Time Expense
	<p>Secretary: 1.0 FTE (CUPE)</p> <p>On-site Preceptors (Hosp): 2.5 FTE</p> <p>One-site Preceptors (Comm):</p> <p>Faculty position: 1 (pharmacy practice)</p>	<p>Contribution to CLRC: \$30,000</p> <p>IT: 1.0 FTE</p> <p>MAC: 0.5 FTE (pharm)</p> <p>medSask: 0.5 FTE (phm)</p> <p>Preceptor Training and Support:</p>	<p>Education and training expenses (eg programs) for preceptors (for Y3)</p>
2019-20	<p>SPEP Office: Director (1.0 FTE) (planning for PharmD and coordinates remediation) (ASPA) SPEP Coordinator 1 (1.0 FTE) (BSP Program plus Y1 & Y2) (ASPA) SPEP Coordinator 2 (1.0 FTE): plan for Y3 (hire Jan 2020) (ASPA) Practice and Preceptor Development Coordinator (1.0 FTE) (ASPA) Secretary: 1.0 FTE (CUPE)</p> <p>On-site Preceptors (Hosp): 2.5 FTE</p> <p>On-site Preceptors (Comm): For academic sites: 0.1 FTE x 15 = 1.5 FTE</p> <p>Faculty positions: 1 (pharmacy practice)</p>	<p>SPEP Scheduling Software: eValue \$95 x 360 students - \$34,300 per yr (also does curriculum mapping) OR RxPreceptor: \$13,500 per yr + mapping software</p> <p>Admissions: as before + KIRA interviews - \$10,000</p> <p>Contribution to CLRC: \$50,000</p> <p>IT: 1.0 FTE</p> <p>MAC: 0.75FTE (pharm)</p> <p>medSask: 0.75 FTE (phm)</p> <p>Preceptor Training and Support:</p>	<p>Faculty, Term positions or sessionals: 0 (new faculty already hired)</p> <p>Education and training expenses (eg programs) for preceptors (for Y3)</p>
2020-21	<p>SPEP Office: Director (1.0 FTE) (convert to tenure track faculty) SPEP Coordinator 1 (1.0 FTE) (Early SPEP: Y1 & Y2) (ASPA) SPEP Coordinator 2 (1.0 FTE): Late SPEP: Y3) (ASPA) Practice and Preceptor Development Coordinator (1.0 FTE) (ASPA) Secretary: 1.0 FTE (CUPE)</p> <p>On-site Preceptors (Hosp): 2.5 FTE</p> <p>Faculty positions: 1 (pharmacy practice)</p>	<p>SPEP Scheduling Software: eValue \$95 x 360 students - \$34,300 per yr (also does curriculum mapping) OR RxPreceptor: \$13,500 per yr + mapping software</p> <p>Admissions: KIRA interviews - \$10,000</p> <p>Contribution to CLRC: \$60,000</p> <p>IT: 1.0 FTE</p>	

Appendix K

Academic Year	Budget Item – Ongoing Expense - Personnel	Budget Item – Ongoing – Goods and Services	Budget Item – One-Time Expense
	One-site Preceptors (Comm and Other): 1:5 FTE Other stipends:	MAC: 1.0 FTE (pharm) medSask: 1.0 FTE (phm) Preceptor Training and Support:	

* Existing positions or expenses in black; new items in red (when first appear or change)

MEMORANDUM

TO: Academic Programs Committee of University Council

FROM: Dr. Kishor M. Wasan

DATE: November 5, 2015

RE: College Statement about Proposed Doctor of Pharmacy Program

Background

The College of Pharmacy and Nutrition fully supports the proposal to implement a Doctor of Pharmacy (PharmD) program at the University of Saskatchewan in September 2017. Pharmacy practice has evolved significantly and pharmacists now have an expanded scope of practice that includes patient assessment and prescribing for common ailments and providing injections such as immunization for influenza. While our BSP graduates are well-trained and well-respected for their professional abilities, it has become difficult to continue to add material and practice experiences to an already full bachelor's degree curriculum. It is also expected that the next revision to the accreditation standards for the professional degree in pharmacy set by the Canadian Council for Accreditation of Pharmacy Programs **will require a PharmD curriculum structure** (accreditation standards for such programs already exist). Consequently, it is time for the University of Saskatchewan to join other Canadian pharmacy programs in offering the Doctor of Pharmacy (PharmD) degree.

Current accreditation standards include increased requirements for interprofessional education and experiential training than that presently provided in the BSP program, especially in the final year. The accreditation standards also require programs to retain a strong foundation in pharmaceutical, clinical, and social/administrative sciences that limits the College's options to reduce curricular emphasis in these areas in order to provide additional time for experiential training. Therefore, to incorporate the required experiences, our program will need to have a major re-organization. The College feels the best way to accomplish this is to change the program from a 1 (pre-pharmacy) + 4 year program into a minimum of a 2 year (pre-pharmacy) + 4 year professional program. This is the structure in place for most Canadian and US PharmD programs.

By requiring students to complete foundational courses (e.g., biomedical sciences and other introductory courses) before entry into the pharmacy program, we can fully develop students' knowledge, skills and abilities with three years of coursework in the other pharmacy specific required curricular areas prior to a full year (32 weeks) of advanced experiential training in year 4 (currently 15 weeks in term 2 of year 4).

The major goal of the new PharmD program is to prepare graduates who are medication therapy experts and who have the competencies to undertake the new and expanding patient care roles in the Canadian health care system and to collaborate with patients and other health care providers to ensure optimum outcomes of drug therapy for Canadians. We feel that the proposed PharmD program will achieve these goals.

Proposal Development

The Pharmacy Division has been working on the development of the program since early 2013 when a Steering Committee was convened. This group laid the groundwork for work that was undertaken in 2014-15 and which resulted in the Notice of Intent submitted in 2014 (Appendix B) and the proposal before you. In the past few months, faculty working groups have developed specific learning outcomes and suggested course content, which in turn have led to the curriculum framework included in the proposal.

The developmental work has been led and supported by Dr. Linda Suveges (Professor Emerita), Dr. Yvonne Shevchuk (Associate Dean, Academic), Shauna Gerwing (Director of Structured Practical Experiences), Stephanie Mulhall (Program Evaluation and Assessment Coordinator), and Susan Bens (Curriculum Specialist, Gwenna Moss Centre for Teaching Effectiveness).

Throughout the program development process, faculty provided feedback and comments. At critical points in the process, faculty held 'retreats' (6 in total) to fully discuss issues that needed to be aired, and to make decisions about key matters before moving forward. Attendees at these retreats included all pharmacy faculty and academic staff (such as lab coordinators and experiential coordinators), and representatives from our key health region partners in Saskatoon and Regina.

Issues

During the program development stage, faculty identified specific questions about course content alignment. During the next phase of course development (January-June, 2016), we will use various techniques to develop specific course content areas ('story-boarding'), finish mapping learning outcomes to courses, and develop teaching and assessment strategies for each course. Faculty are committed to actively participate in this phase.

Program development discussions with current students, alumni and stakeholders such as employers inevitably led to questions about the availability of some kind of post-BSP program leading to the PharmD credential. As discussed in the proposal, the College is committed to developing such a 'flexible PharmD' program for practising pharmacists. Once the entry-to-practice PharmD course development has been completed, faculty will begin work to develop a post-BSP program. We expect to be able to use material from the undergraduate PharmD courses in a 'flexible' program.

Throughout the program development phase, we have consulted widely with students, alumni and colleagues in professional organizations, health regions and government agencies. Support for the development of the PharmD program is evident (see Appendix C). However, there is recognition that further discussions will be needed, about the resources required to develop and support experiential training sites and preceptors. We have embedded resources in our budget to ensure preceptor development and on-going support for clinical training sites, and will initiate and continue discussions with health regions and other stakeholders immediately to develop a solid experiential education program.

Implementation

It is our intent to begin the implementation phase immediately so that all will be ready well in advance of the September 2017 start time. Faculty will continue to develop courses, integrated professional skills activities and teaching and assessment strategies.

The Experiential Education Working Group (whose membership includes faculty, students, and preceptors from across the province) is continuing its work on developing structured practice experiences to be offered throughout the program. The College will be involving preceptors in the development process in various ways, including surveys, focus groups and training sessions.

We are confident that we will be fully prepared to offer a high quality PharmD program which will meet accreditation standards, and which will produce graduates who are 'medication therapy experts'. Late in 2016, the BSP program will be reviewed for extension of its accreditation. It is our intent to submit the PharmD program for consideration for 'provisional accreditation' at the same time.

Proposal Approval

The proposal for a Doctor of Pharmacy program at the University of Saskatchewan was approved by the Division of Pharmacy on September 23, 2015 (unanimous vote: 17-0-0) and by the Pharmacy and Nutrition Faculty Council on September 30, 2015 (29-0-2).

Thank you for consideration of this proposal. If you require further information, please contact us.



Kishor M. Wasan, Ph.D.

KMW:smk

Additional Information on the Doctor of Pharmacy (PharmD) Degree for Practising Pharmacists

As outlined in the proposal for the undergraduate PharmD degree, it is the intent of the College of Pharmacy and Nutrition to develop and offer a 'PharmD program for practising pharmacists.' Although the term 'bridging program' has been used to describe any post-BSP program leading to the PharmD, this term is more appropriate for those situations where students enter into a Bachelor's program and then are 'bridged' into a PharmD program prior to graduation (i.e., they achieve only the PharmD degree). The College will not be offering this option to students in the BSP program.

Therefore, the phrase 'PharmD for practising pharmacists' seems to provide the most clarity for the program we intend to offer, and it will be the term used here. (The term 'flexible' PharmD program is also being used, but this is only appropriate if the program has flexibility built into it, such as being able to complete it on a part-time basis.)

Background

The PharmD became the sole undergraduate pharmacy degree offered in the US as of the year 2000. As pharmacy programs converted to this option, many of them began offering PharmD programs for practising pharmacists. As the cohort of interested practitioners diminished, numerous programs have been closed, with only a few remaining. Two examples are the Massachusetts College of Pharmacy¹ and Health Sciences, and the University of Florida².

In Canada, Pharmacy schools at the Universities of Alberta³ and Waterloo⁴ have recently opened PharmD programs for practising pharmacists. Waterloo is only offering their program to graduates of their Bachelor's program, and it will accept candidates for three years. (The Waterloo program is the newest in Canada and has only graduated pharmacists since 2011 so the cohort of practising pharmacists is limited.)

Although these program examples differ in some details, they have the following common characteristics:

- The program consists of a didactic component and a practice experience component.
- Didactic courses are offered in a blended format, with most coursework on-line (unless a full-time program is offered on campus), and some requirement for in-person attendance.
- Practice experiences are offered in various locations, with the opportunity for candidates to 'test out' or receive credit for prior learning or practice experience for some rotations (but not all).
- Candidates may choose a full-time or part-time pathway to complete the program. Generally, the program can be completed in 12-18 months full-time, or over 3-5 years if part-time. There is a limit of 5-7 years for program completion once started.

¹ https://online.mcphs.edu/programs/pharmacy%20postbaccalaureate%20pharmd%20pathway?_ga=1.218516697.1142313325.1448990350

² <http://pharmd.distancelearning.ufl.edu/pharm-d-program/>

³ <http://pharm.ualberta.ca/programs/undergraduate-doctor-of-pharmacy>

⁴ <https://uwaterloo.ca/pharmacy/welcome-pharmacy-alumni/pharmd-bridging-program>

- Candidates must have completed a bachelor's program in Pharmacy and must be licensed or eligible for licensure prior to commencing clinical rotations. Because practice experiences involve direct patient care activities, licensure is required.
- Most programs accept candidates who have graduated from any pharmacy program. In Canada, international pharmacy graduates are eligible as long as they have successfully completed the Pharmacy Examining Board of Canada (PEBC) Evaluating Exam (this exam assesses equivalency of their undergraduate Pharmacy knowledge), and the PEBC Qualifying Exam (this exam is required for licensure in every jurisdiction except Quebec).
- Tuition is generally higher than that for the undergraduate PharmD program, to accommodate the delivery of on-line programming, fairly extensive experiential component and other program aspects.

Plans for the PharmD for Practising Pharmacists at the University of Saskatchewan

While recognizing the high level of interest from practitioners, faculty have been reluctant to set a start date for the PharmD program for practising pharmacists until the undergraduate PharmD is up and running. As the undergraduate program takes shape, and **if appropriate resources can be put into place**, it may be possible to implement a program for practising pharmacists to run concurrently with the undergraduate program. However, our first priority will be to students in the undergraduate PharmD program. The program proposal submitted does not in any way depend on the introduction of a PharmD for practising pharmacists to be successful (i.e., additional revenue from such a program is not required to support the undergraduate PharmD program.)

It should be noted that the pharmacy regulatory authorities in Canada (e.g., the Saskatchewan College of Pharmacy Professionals) will NOT require practising pharmacists to achieve the PharmD to be eligible for licensure as a pharmacist. Therefore, we anticipate that practitioners who are interested in achieving the PharmD credential will do so because of their interest in upgrading knowledge or changing or expanding their practices. Consequently, the Pharmacy faculty feels comfortable in focussing their efforts on developing and implementing an excellent undergraduate PharmD program as a first priority.

The Pharmacy faculty have not yet delineated the structure or requirements for a PharmD program for practising pharmacists. However, there would be no reason to suggest that it would differ markedly from other such programs as described above. We anticipate adapting coursework materials from the undergraduate PharmD, offering it in a blended format and allowing both part-time and full-time options. Faculty are supportive of prior learning assessment for some practice experiences as well. The first step in the process would be to establish a working group.

Further information on PharmD programs for practising pharmacists can be obtained from the websites provided or by contacting Dr. Yvonne Shevchuk at the College of Pharmacy and Nutrition.



UNIVERSITY OF
SASKATCHEWAN

Library Requirements for New Programs and Major Revisions

This form is to be completed by the faculty member responsible for the program proposal in consultation with the Liaison Librarian from the University Library, University of Saskatchewan. Contact the appropriate [Liaison Librarian](#) for assistance.

Attach the completed form to the program proposal prior to submission to the Academic Programs Committee. Additional comments may also be attached if required.

1. Proposal Identification

Full name of program: Doctor of Pharmacy Program (PharmD)

Short form (degree abbreviation): PharmD

Sponsoring Department/College: College of Pharmacy and Nutrition

Degree Level: Undergraduate

2. Library Resources

2.1 Resources are/will be located mainly in the *Leslie and Irene Dubé Health Sciences Library*

2.2 Comment on the adequacy of the current level of Library acquisitions in support of this discipline.

Current resources are adequate. There are always additional acquisitions we desire, however we also understand resource limitations.

2.3 Specify serial titles that are core to this program.

Please see attached spreadsheet. The list contains the 50 most highly ranked serial titles in the subject area "Pharmacy and Pharmacology". The University Library subscribes to 48 of the 50. The two titles not subscribed to: "Recent Patents on Anti-Cancer Drug Discovery" and "Critical Reviews in Therapeutic Drug Carrier Systems" have not been requested through our interlibrary loan service in the last year. I believe that we have an excellent collection of serial titles to support this program.

2.4 What access is required to resources held elsewhere? (Identify additional costs for access e.g. networking of databases, consortial access to databases, document delivery options).

*Access to interlibrary loans as it currently exists is adequate.
We also have consortial access to databases including: Health Knowledge Network Alberta (HKN), Canadian Knowledge Research Network, and the Multi-type database licensing program (MDLP).*

- 2.5 Will any resource re-allocation within the broad discipline be necessary to support this new program?

No

- 2.6 What are the human resource requirements to support this program?
(Does the Library have the subject expertise amongst its staff? Are more staff required to develop collections, provide user education, develop and promote web access to resources, etc.).

Currently we use Vicky Duncan to assist in teaching pharmacy students information literacy skills. We desire to continue this approach to build on skills to access the library and to offer information literacy for all years in the PharmD program. No major change is anticipated.

3. Additional Library Resources Required

- 3.1 What new subject areas of acquisition are needed to meet program requirements?

None

- 3.2 What new electronic resources/databases are required?

None- but note that access to UptoDate and Pharmacists Letter would be beneficial; currently the costs are prohibitive

- 3.3 Are there new/additional library technology requirements necessary to support this program?

No

- 3.4 Are there distance education service needs and costs?

No- we would continue with preceptor/student access to the library as already established. With the PharmD program we anticipate our current pool of preceptors will expand. This may result in additional access to the library for preceptor support.

- 3.5 Provide an estimated budget required for library resources to support this program annually.

None

4. Statement of Assessment of Library requirements
(Indicate Library capacity to support new program)

Overall, the University Library is well-positioned to support the Doctor of Pharmacy Program. The Health Sciences Library has been working in conjunction with Pharmacy faculty to integrate information literacy programs within the curriculum and offers a strong print and online collection to support faculty and student academic needs. However, the monograph budget has not been adequate to purchase some resources required by the College. An increase to the monograph budget can be achieved by the library starting in 2016-17.

Date: October 2, 2015

Liaison Librarian's Signature:  _____

Library Dean's Signature: *Williamson, Oct 29/2015*

Faculty member (for the sponsoring college/dept): *Y Shevchuk, Nov 12, 2015*

Yvonne Shevchuk, PharmD
Professor of Pharmacy
Associate Dean (Academic)

Consultation with the Registrar Form
(New Programs and New Majors / Minors / Concentrations)

Title: Doctor of Pharmacy

This form is to be completed by the Registrar (or his/her designate) during an in-person consultation with the faculty member responsible for the proposal. Please consider the questions on this form prior to the meeting.

Section 1: New Degree / Diploma / Certificate Information or Renaming of Existing

1 Is this a new degree, diploma, or certificate?

Yes ☒ No ☐

Is an existing degree, diploma, or certificate being renamed?

Yes ☒ No ☐

If you've answered NO to each of the previous two questions, please continue on to the next section.

2 What is the name of the new degree, diploma, or certificate?

Doctor of Pharmacy (Pharm.D. as credential)

3 If you have renamed an existing degree, diploma, or certificate, what is the current name?

Bachelor of Science in Pharmacy

4 Does this new or renamed degree / diploma / certificate require completion of degree level courses or non-degree level courses, thus implying the attainment of either a degree level or non-degree level standard of achievement?

Degree Level Courses

5 What is your suggested credential abbreviation for this new or renamed degree, diploma, or certificate (please consult with Academic Services)? What is the Banner code for this new or renamed degree, diploma, or certificate?

Doctor of Pharmacy [PHARMD - Doctor of Pharmacy - suggested Banner code/description]

6 Which College is responsible for the awarding of this degree, diploma, or certificate?

College of Pharmacy and Nutrition

7 programs.

No

8 Are there any new majors, minors, or concentrations associated with this new degree / diploma / certificate? Please list the name(s) and whether it is a major, minor, or concentration, along with the sponsoring department.

PHAR [Pharmacy] - currently built major in Banner; PH [Pharm and Nutr (Dean's Office)] - currently built in Banner

9 If this is a new graduate degree, is it thesis-based, course-based, or project-based?

Section 2: New Program for Existing Degree / Diploma / Certificate Information

1 Is this a new program?

Yes ☒ No ☐

Is an existing program being revised?

Yes ☒ No ☐

If you've answered NO to each of the previous two questions, please continue on to the next section.

2 If YES, what degree, diploma, or certificate does this new/revised program meet requirements for?

Doctor of Pharmacy

3 What is the name of this new program?

Doctor of Pharmacy [PHARMD - Doctor of Pharmacy - suggested Banner code/description]

4 What other program(s) currently exist that will also meet the requirements for this same degree(s)?

5 What College/Department is the academic authority for this program?

Pharmacy and Nutrition / Pharmacy and Nutrition (Dean's Office)

6 Is this a replacement for a current program?

Yes ☒ No ☐

7 If YES, will students in the current program complete that program or be grandfathered?

Students who start the Bachelor's program will complete that program; any Bachelor's students who are unable to complete with the appropriate cohort will be given the opportunity to complete the program as they will not be able to transfer to the Doctor program

8 If this is a new graduate program, is it thesis-based, course-based, or project-based?

Section 3: New / Revised Major, Minor, or Concentration for Existing Degree Information (Undergraduate)

1 Is this a new or revised major, minor, or concentration attached to an existing degree program?

Yes ☐ No ☒ Revised ☐

If you've answered NO, please continue on to the next section.

2 for each.

3 What is the name of this new / revised major, minor, or concentration?

4 Which department is the authority for this major, minor, or concentration? If this is a cross-College relationship, please state the Jurisdictional College and the Adopting College.

5 to?

Section 4: New / Revised Disciplinary Area for Existing Degree Information (Graduate)

1 Is this a new or revised disciplinary area attached to an existing graduate degree program?

Yes ☐ No ☒ Revised ☐

If you've answered NO, please continue on to the next section.

2 If YES, what is the name of this new disciplinary area?

3 Which Department / School is the authority for this new disciplinary area?

4 Which current program(s) and / or degree(s) is this new disciplinary area attached to?

Section 5: New College / School / Center / Department or Renaming of Existing

1 Is this a new college, school, center, or department?

Yes ☐ No ☒

Is an existing college, school, center, or department being renamed?

Yes ☐ No ☒

If you've answered NO to each of the previous two questions, please continue on to the next section.

2 What is the name of the new (or renamed) college, school, center, or department?

3 If you have renamed an existing college, school, center, or department, what is the current name?

4 What is the effective term of this new (renamed) college, school, center, or department?

5 Will any programs be created, changed, or moved to a new authority, removed, relabelled?

6 Will any courses be created, changed, or moved to a new authority, removed, relabelled?

7 Are there any ceremonial consequences for Convocation (ie. New degree hood, adjustment to parchments, etc.)?

Section 6: Course Information

1 Is there a new subject area(s) of course offering proposed for this new degree? If so, what is the subject area(s) and the suggested four (4) character abbreviation(s) to be used in course listings?

PHAR [Pharmacy] - currently used subject code/description will be used

2 If there is a new subject area(s) of offerings what College / Department is the academic authority for this new subject area?

PH [Pharmacy and Nutrition] / PH [Pharm and Nutr (Dean's Office)] - currently built in student system and used on current PHAR courses

3 Have the subject area identifier and course number(s) for new and revised courses been cleared by the Registrar?

Yes, course numbers have been approved by Registrar

4 Does the program timetable use standard class time slots, terms, and sessions?

If NO, please describe.

Yes ☐ No ☒

NOTE: Please remember to submit a new Course Creation form for every new course required for this new program / major. Attached completed "Course Creation Forms" to this document would be helpful.

Section 7: Admissions, Recruitment, and Quota Information

1 Will students apply on-line? If not, how will they apply?

Yes

2 What term(s) can students be admitted to?

September only

3 Does this impact enrollment?

No change - quota will remain at 90

4 How should Marketing and Student Recruitment handle initial inquiries about this proposal before official approval?

Refer to the College of Pharmacy and Nutrition

5 Can classes towards this program be taken at the same time as another program?

No

6 What is the application deadline?

Earlier than Feb. which is current deadline

7 What are the admission qualifications? (IE. High school transcript required, grade 12 standing, minimum average, any required courses, etc.)

60 cu's of coursework taken prior to April 30 of the year admission is desired; coursework must include 24 cu's taken at least one academic year

6 cu's Biology, 3 cu's Chemistry (general), 6 cu's Chemistry (organic), 6 cu's English, 3 cu's Biochemistry (biomolecules), 3 cu's Biochemistry (metabolism), 6 cu's Physiology (human body systems), 3 cu's Mathematics (calculus), 3 cu's Microbiology, 3 cu's Nutrition, 15 cu's Electives (6 cu's chosen from Psychology, Sociology, Native Studies, Philosophy and 9 cu's open elective), 3 cu's Stats

8 What is the selection criteria? (IE. If only average then 100% weighting; if other factors such as interview, essay, etc. what is the weighting of each of these in the admission decision.)

Using similar weighting to the current BSP, admission will be based on:

- academic average
- test of critical skills
- personal interview

9 What are the admission categories and admit types? (IE. High school students and transfer students or one group? Special admission? Aboriginal equity program?)

Same as current BSP; 14 OOP, 76 SK including 4 Ed Equity and 1 Special Admission

10 What is the application process? (IE. Online application and supplemental information (required checklist items) through the Admissions Office or sent to the College/Department?)

Through College additional info, other info same as BSP

11 Who makes the admission decision? (IE. Admissions Office or College/Department/Other?)

College

12 Letter of acceptance - are there any special requirements for communication to newly admitted students?

College completes

13 Will the standard application fee apply?

Yes

14 Will all applicants be charged the fee or will current, active students be exempt?

No exemption

Section 8: Tuition Information

1 How will tuition be assessed?

Per Course	<input type="checkbox"/>
Per Credit Unit	<input type="checkbox"/>
Program Based	<input checked="" type="checkbox"/>
Standard Term	<input type="checkbox"/>
Other *	<input checked="" type="checkbox"/>
Current Set-Up	<input type="checkbox"/>

* Tuition for this 4 year program is a program-based amount totalling \$68,000 (approximately \$17,000/year). For assessment purposes only, it may be charged on a per credit basis to allow for greater student flexibility in the program.

2 If fees are per credit, do they conform to existing categories for per credit tuition? If YES, what category?

3 If program-based, will students outside the program be allowed to take the classes?

No

4 If YES, what should the per credit fee be?

Section 9: Government Loan Information

NOTE: Federal / provincial government loan programs require students to be full-time in order to be eligible for funding. The University of Saskatchewan defines full-time as enrollment in a minimum of 9 credit units (operational) in the fall and/or winter term(s) depending on the length of the loan.

1 If this is a change to an existing program, will the program change have any impact on student loan eligibility?

No

2 If this is a new program, do you intend that students be eligible for student loans?

Yes

Section 10: Convocation Information (only for new degrees)

- 1 Are there any 'ceremonial consequences' of this proposal (ie. New degree hood, special convocation, etc.)?

New degree hood

- 2 When is the first class expected to graduate?

Spring 2021

- 3 years)?

Approximately 90/year based on intake of 90/year

Section 11: Schedule of Implementation Information

- 1 What is the start term?

201709 [September 2017]

- 2 Are students required to do anything prior to the above date?

Yes ☐ No ☒

If YES, what and by what date?

Section 12: Registration Information

- 1 Will students register themselves?

Yes ☒ No ☐

If YES, what priority group should they be in?

As per current set-up

Section 13: Academic History Information

- 1 Will instructors submit grades through self-serve?

Yes ☒ No ☐

- 2 Who will approve grades (Department Head, Assistant Dean, etc.)?

As per current set-up

Section 14: T2202 Information (tax form)

- 1 Should classes count towards T2202s?

Yes ☒ No ☐

Section 15: Awards Information

- 1 Will terms of reference for existing awards need to be amended?

Yes ☒ No ☐

- 2 If this is a new undergraduate program, will students in this program be eligible for College-specific awards?

Yes

Section 16: Program Termination

- 1 Is this a program termination?

Yes ☐ No ☒

If yes, what is the name of the program?

- 2 What is the effective date of this termination?

- 3 Will there be any courses closed as a result of this termination? Yes ☐ No ☐
If yes, what courses?
- 4 Are there currently any students enrolled in the program? Yes ☐ No ☐
If yes, will they be able to complete the program?
- 5 If not, what alternate arrangements are being made for these students?
- 6 When do you expect the last student to complete this program?

Section 17: SEDS - Information Dissemination (Internal for SEDS use only)

- | | | |
|---|------------------------------|-----------------------------|
| 1 Has SEDS, Marketing and Student Recruitment, been informed about this new / revised program? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 2 Has SEDS, Admissions, been informed about this new / revised program? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 3 Has CGSR been informed about this new / revised program? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 4 Has SEDS, Transfer Credit, been informed about any new / revised courses? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 5 Has ICT-Data Services been informed about this new or revised degree / program / major / minor / concentration? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 6 Has the Library been informed about this new / revised program? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |
| 7 Has ISA been informed of the CIP code for new degree / program / major? | Yes <input type="checkbox"/> | No <input type="checkbox"/> |

SIGNED

Date: November 3, 2015

Registrar (Jason Doell, Assistant Registrar, for Russell Isinger): *Russell Isinger*

College / Department Representative: *W. Shultz* Nov 12, 2015