



March 2017 PharmD Update

March 14, 2017

**College of Pharmacy and Nutrition
University of Saskatchewan**



PharmD Program Overview

- Prior to admission to the program candidates require 2 years of **prerequisites**
 - Candidates for admission must have completed 60 credit units (or equivalent) by April 30 of the year admission is desired. The coursework must include 24 credit units taken at least one academic year (September to April).
 - The following courses (or equivalent) are required in the 60 credit units:
 - Biology : 6 credit units (BIOL 120.3 and BIOL 121.3 at U of S)
 - Chemistry : 3 credit units General and 6 credit units Organic (CHEM 112.3, CHEM 250.3, and CHEM 255.3 at U of S)
 - English : 6 credit units (ENG 110.6 or two of ENG 111.3, 112.3, 113.3, 114.3 at U of S)
 - Biochemistry : 3 credit units Biomolecules and 3 credit units Metabolism (BMSC 200.3 and BMSC 230.3 at U of S)
 - Physiology : 6 credit units (human body systems) (PHSI 208.6 at U of S)
 - Mathematics (Calculus) : 3 credit units (MATH 125.3 at U of S)
 - Statistics : 3 credit units (STAT 246.3 at U of S)
 - Microbiology : 3 credit units (BMSC 210.3 at U of S)
 - Nutrition : 3 credit units (NUTR 120.3 at U of S)
 - Electives : 15 credit units : 6 credit units from psychology, sociology, native studies, or philosophy; and 9 credit units any electives
 - Other Admission Requirements: 1) Test of Critical Skills (can only be written in Canada); 2) Video Interview

See: <http://pharmacy-nutrition.usask.ca/students/prospective-students/admissions-information.php#AcademicRequirements>

PharmD Program at the University of Saskatchewan

- The program consists of 4 years of education
- The entire fourth year is comprised of experiential learning
 - Students will complete 4 rotations of 8 weeks
 - Rotations will include:
 - Community
 - Hospital
 - Direct Patient Care
 - Elective
- Assessment will be based on AFPC Educational Outcomes (NOTE: APFC outcomes are currently under revision)
 - Care Provider
 - Communicator
 - Collaborator
 - Manager
 - Advocate
 - Scholar
 - Professional
- Based on the APFC Educational Outcomes the goal of First Professional Degree Programs in Pharmacy (FPDPP) in Canada is to graduate Medication Therapy Experts. This requires graduates to integrate knowledge, skills and attitudes from all seven educational outcomes.
Reference: <https://www.afpc.info/sites/default/files/AFPC%20Educational%20Outcomes.pdf>

Table 1: Draft Overview of Year 1 PharmD

Course	Topics Covered In Year 1
Pharmacy Practice	Term 1: Patient care process; patient assessment; interviewing; patient counselling, identifying drug therapy problems; care plans; documentation; physical assessment; interpreting lab values and diagnostic tests; clinical services
Pharmaceutics	Term 2: Powders, capsules, solutions, colloids, suspensions, emulsions, tablets
Pharmacy Skills Development *Laboratory environment: practice with simple patients with simple problems	Term 1: Technical functions of dispensing; patient care process; drug information, patient interviews, patient counseling, references Term 2: Begin compounding: capsules, oral solutions, oral suspensions Note: students use Kroll computer software in the lab
Self-Care *All non-prescription pharmaceuticals and supplies are taught in year 1 with topics revisited intermittently in year 2 and 3	Term 1: Vitamins/minerals, infant formulas, cough/cold, allergic rhinitis, fever, pediculosis, infectious skin diseases, dandruff, seborrhea, itch, diaper rash, eczema, colic, OTC weight loss, sun health, hair loss, acne, fungal dermatitis, dry skin, vaginitis, first aid, contact dermatitis, hives, pityriasis Term 2: Psoriasis, childhood dermatitis, chicken pox, shingles, foot care, hemorrhoids, back pain, physiotherapy aids, OTC NSAIDS, braces, herbals, leg cramps, constipation, diarrhea, IBS, GI enzymes, nausea, vomiting, ophthalmic, otic, contact lenses
Pharmacotherapeutics *begins in term2	Term 2: Infectious diseases (organisms, antibiotics, resistance, influenza, otitis media, cellulitis, pharyngitis, sinusitis, pneumonia, UTI); Cardiovascular (hypertension, lipids, dyslipidemia, coronary heart disease, stroke, antiplatelet therapy); Diabetes; Obesity
Medicinal Chemistry and Physical Pharmacy	Term 1: Drug discovery process, functional groups, structural changes in drug classes, drug binding interactions, stereochemistry of drugs, drug properties, structure/activity relationships, drug design, stability, activity, toxicity, degradation, formulation
Pathophysiology and Pharmacology	Term 1 & 2: ADME principles, pharmacological concepts, pharmacodynamics principles, drug classes, immune function, cardiovascular system, respiratory system, ophthalmology, endocrine and neuroendocrine system, renal system, GI system, nervous/autonomic system, neurology, oncology
Pharmacy Law & Ethics	Term 2: Legal obligations and laws within provincial and federal frameworks; ethical dilemmas
Pharmacy Math & Calculations	Term 2: Dosage calculations; calculations for pharmaceutical preparations
Health Care System	Term 1: Canadian health care system, Medicare, determinants of health, public health, primary care, prescriptive authority, IP collaboration, communication, cultural competency, patient behaviors, professionalism
Service-Learning	Term 1 & 2: 60 hours of service learning in a community based organization.
EL Immersions	Term 1 & 2: Community pharmacy x 4; MAC x 2: medSask x 2 (over two terms)
Experiential Learning	4 week community experience (Summer: May to August)



Year 1: Course Numbers and Titles in the PharmD for 2017-2018

Term 1

PHAR 190.0 Introduction to the College/Program
PHAR 121.3 Foundational Sciences I: Foundational Pathophysiology & Pharmacology
PHAR 122.3 Foundational Sciences 2: Medicinal Chemistry and Physical Pharmacy
PHAR 153.4 Self Care I: Non-prescription Pharmaceuticals and Supplies
PHAR 110.3 Introduction to Pharmacy and the Health Care System
PHAR 162.3 Pharmacy Practice I: The Patient Care Process
PHAR 170.3 Pharmacy Skills Development I
PHAR 181.1 Introductory Experiential Learning I
PHAR 183.1 Service Learning I
PHAR 191.1 IPE Activities

Term 2

PHAR 123.3 Foundational Sciences 3: Foundational Pathophysiology & Pharmacology 2
PHAR 124.3 Foundational Sciences 4: Introduction to Pharmaceutics
PHAR 152.6 Pharmacotherapeutics I
PHAR 154.3 Self Care II: Non-prescription Pharmaceutics and Supplies
PHAR 112.1 Pharmacy Law and Introduction to Ethics
PHAR 111.1 Foundations for Practice: Pharmacy Mathematics & Calculations
PHAR 171.3 Pharmacy Skills Development 2
PHAR 182.1 Introductory Experiential Learning 2
PHAR 184.1 Service Learning 2
PHAR 192.1 IPE Activities

PHAR 185.4 Introductory Community Pharmacy Practice Experience (**spring/summer**)

See: <http://words.usask.ca/pharmd/>

- **Year 2 and Year 3 of the PharmD program are currently under development at the College of Pharmacy and Nutrition. We will provide updates to the curriculum as they become available.**



Table 2: Comparison of BSP vs. Pharm D Experiential Learning Summary

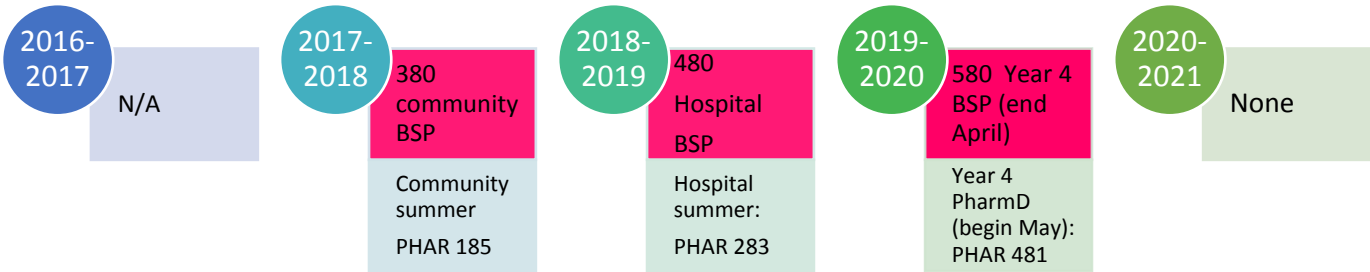
Year In Program	BSP (Current)	PharmD (2017)
Year 1	Service Learning (60 Hours) *Not Counted For Internship Hours	Service Learning (60 Hours) *Not Counted For Internship Hours <ul style="list-style-type: none"> • Four 3 hour immersions per term in: MAC, medSask, & Community x 2
Summer Between Y1 & Y2	None	4 Week Community (160 Hours)
Year 2	None	<ul style="list-style-type: none"> ▪ Three 3 hour immersions per term (sites to be determined) Suggested: medSask, Community, & Hospital Sites
Summer Between Y2 & Y3	4 Week Community (160 Hours)	4 Week Hospital (160 Hours)
Year 3		<ul style="list-style-type: none"> ▪ Three or four 3 hour Immersions per term (sites to be determined) Suggested sites: MAC, medSask, & Community
Summer Between Y3 & Y4	4 Week Hospital (160 Hours)	Begin Year 4 Experience
Year 4	3 Rotations X 5 Weeks=15 Weeks (600 Hours) <ul style="list-style-type: none"> • 5 Week Hospital (200 Hours) • 5 Week Community (200 Hours) • 5 Week Specialty (200 Hours) 	4 Rotations X 8 Weeks= 32 Weeks (1280 Hours) <ul style="list-style-type: none"> • 8 Week Hospital (320 Hours) • 8 Week Community (320 Hours) • 8 Week Direct Patient Care (320 Hours) • 8 Week Elective (Direct Or Non-Direct Patient Care) (320 Hours)
Total Experiential Learning Hours:	23 Weeks (920 Hours)	40 Weeks (1600 Hours + Weekly Immersions)

- The major changes proposed include the increase in experiential learning from 920 hours in the BSP to 1600 hours in the PharmD and the immersion visits during the school year. In addition, the entire fourth year of the program will be comprised of experiential learning. What this could mean for some sites, is that they may anticipate having a student at the site year round (minus two weeks in December).
- The College of Pharmacy and Nutrition will be introducing new scheduling and assessment software this coming year. Training and support will be provided.



Overlap of BSP and PharmD:

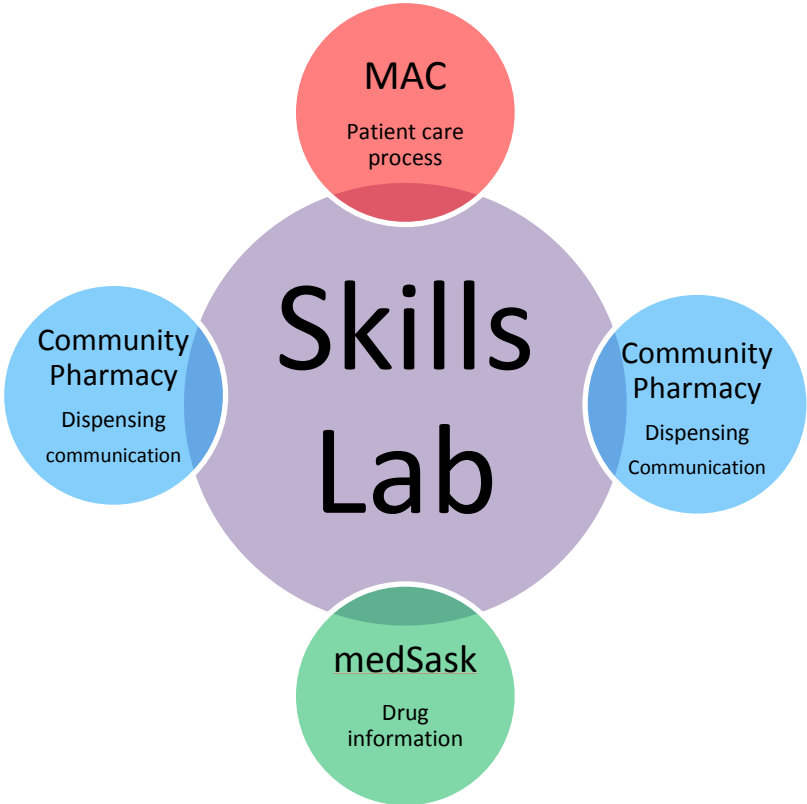
- Community pharmacy overlap will occur in the summer of 2018
- Hospital pharmacy overlap will occur in the summer of 2019



Immersion:

Year one students may complete immersion at the following sites over two terms:

- 4 **Community Pharmacy** immersions (same student in the same pharmacy for 4 immersions total: 2 visits from September to December and 2 visits from January to April)
- 2 Medication Assessment Centre **MAC** immersions (one in term 1 and one in term 2)
- 2 **medSask** immersions (one in term 1 and one in term 2)
- Students will practice and apply skills learned in the skills laboratory and at the college in the year one immersion experiences



Thank you for your interest and support of our program. Please direct any inquiries to Dr. Yvonne Shevchuk at yvonne.shevchuk@usask.ca or Shauna Gerwing at shauna.gerwing@usask.ca.