Standard No. 11: Interprofessional Education (IPE): The curriculum prepares all students to provide entry-level, patient-centered care in a variety of practice settings as a contributing member of an interprofessional team. In the aggregate, team exposure includes prescribers as well as other healthcare professionals.

1) Documentation and Data:

Required Documentation and Data:

Uploads:

☑ Vision, mission, and goal statements related to interprofessional education (APPENDIX 11A)

☑ Statements addressing interprofessional education and practice contained within student handbooks and/or catalogs (APPENDIX 11B)

☑ Relevant syllabi for required and elective didactic and experiential education course that incorporate elements of interprofessional education to document that concepts are reinforced throughout the curriculum and that interprofessional education related skills are practiced at appropriate times during pre-APPE (APPENDICES 11G-11J)

☑ Student IPPE and APPE evaluation data documenting the extent of exposure to an interprofessional, team-based patient care (APPENDICES 11L-11M)

☑ Assessment data summarizing students’ overall achievement of expected interprofessional education outcomes in the pre-APPE and APPE curriculum (APPENDIX 11N)

Required Documentation for On-Site Review:

(None required for this Standard)

Data Views and Standardized Tables:

☑ It is optional for the college or school to provide brief comments about each chart or table (see Directions).

☑ AACP Standardized Survey: Student – Questions –3, 38

Optional Documentation and Data:

Other documentation or data that provides supporting evidence of compliance with the standard

2) College or Schools Self-Assessment of the Standard: self-assess how well the program is in compliance with the standard by putting a check in the appropriate box ☑:
### 11.1. Interprofessional team dynamics

All students demonstrate competence in interprofessional team dynamics, including articulating the values and ethics that underpin interprofessional practice, engaging in effective interprofessional communication, including conflict resolution and documentation skills, and honoring interprofessional roles and responsibilities. Interprofessional team dynamics are introduced, reinforced, and practiced in the didactic and Introductory Pharmacy Practice Experience (IPPE) components of the curriculum, and competency is demonstrated in Advanced Pharmacy Practice Experience (APPE) practice settings.

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>N.I.</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>●</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

### 11.2. Interprofessional team education

To advance collaboration and quality of patient care, the didactic and experiential curricula include opportunities for students to learn about, from, and with other members of the interprofessional healthcare team. Through interprofessional education activities, students gain an understanding of the abilities, competencies, and scope of practice of team members. Some, but not all, of these educational activities may be simulations.

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>N.I.</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>●</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

### 11.3. Interprofessional team practice

All students competently participate as a healthcare team member in providing direct patient care and engaging in shared therapeutic decision-making. They participate in experiential educational activities with prescribers/student prescribers and other student/professional healthcare team members, including face-to-face interactions that are designed to advance interprofessional team effectiveness.

<table>
<thead>
<tr>
<th></th>
<th>S</th>
<th>N.I.</th>
<th>U</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>●</td>
<td>○</td>
<td>○</td>
</tr>
</tbody>
</table>

3) **College or School’s Comments on the Standard:** The college or school’s descriptive text and supporting evidence should specifically address the following. Use a check ✓ to indicate that the topic has been adequately addressed. Use the text box provided to describe: areas of the program that are noteworthy, innovative, or exceed the expectation of the standard; the college or school's self-assessment of its issues and its plans for addressing them, with relevant timelines; findings that highlight areas of concern along with actions or recommendations to address them; and additional actions or strategies to further advance the quality of the program. For plans that have already been initiated to address an issue, the college or school should provide evidence that the plan is working. Wherever possible and applicable, survey data should be broken down by demographic and/or branch/campus/pathway groupings, and comments provided on any notable findings.

- ✓ How the college or school supports postgraduate professional education and training of pharmacists and the development of pharmacy graduates who are trained with other health professionals to provide patient care as a team
- ✓ How the curriculum is preparing graduates to work as members of an interprofessional team, including a description of the courses that focus specifically on interprofessional education
- ✓ How the results of interprofessional education outcome assessment data are used to improve the curriculum
- ✓ How the college or school is applying the guidelines for this standard in order to comply with the intent and expectation of the standard
- ✓ Any other notable achievements, innovations or quality improvements
- ✓ Interpretation of the data from the applicable AACP standardized survey questions, especially notable differences from national or peer group norms
Interprofessional Education Environment

The mission of the School of Pharmacy (SOP) reflects and emphasizes integration of interprofessional education (IPE) and training in the PharmD curriculum and utilization of interprofessional (IP) approaches in teaching, research/scholarship, clinical practice, and service (Appendix 11A). Enrolled students are informed of the importance of IPE by the Dean in the Introduction section within the SOP Student Handbook as he states, “The professional curriculum is designed to challenge you and to teach you to become an independent learner and to work in collaborative interprofessional healthcare teams” (Appendix 11B). Likewise, information on the SOP website for students interested in pursuing pharmacy clearly states “pharmacists work in concert with the patient and other health care providers to promote health and prevent diseases” (https://www.ndsu.edu/pharmacy/pharmd/).

The SOP developed and continuously seeks college-level and external partnerships for IPE and interprofessional practice (IPP) for students, faculty, pharmacy residents, and other licensed health professions. The SOP has collaborations with NDSU Nursing, Public Health, Nutrition, Social and Allied Sciences to provide didactic, simulated and co-curricular IPE experiences. The SOP developed a collaboration with the University of North Dakota (UND) School of Medicine and Health Sciences (SMHS) to provide IPE opportunities with medical students. In spring 2019, the SOP was one of the partners in the UND SMHS application for the funded HRSA grant, Dakota Geriatric Workforce Enhancement Program, promoting IPE and IPP for the healthcare workforce in geriatrics in ND and SD (Appendix 11C).

The College promotes a variety of co-curricular opportunities for IP interaction among professional students such as IPE Grand Rounds, College Ambassadors, Dean’s Liaison Council, and provides a common lounge for students enrolled in all of its health professions programs. The shared lounge creates an IP atmosphere for interactions and relationship development. The Aldevron Tower with mixed informal seating located throughout the building will further the interactions among CHP pre-professional and professional students.

The SOP experiential program includes hundreds of practice sites that were developed with health system administrators and practicing pharmacists, primarily but not exclusively in ND and MN, to provide IP team experiences. These sites provide high quality IPE opportunities for pharmacy students and affiliated pharmacy practice faculty. Major health systems providing IPE and training include the Veterans Affairs Health System (VAHS) in Fargo, Sanford Health in Fargo and Bismarck, Essentia Health in Fargo, Altru in Grand Forks, Family HealthCare in Fargo, and hospitals and clinics in Minnesota such as the VAHS in Minneapolis, CentraCare St. Cloud Hospital in Saint Cloud and Lake Region HealthCare (LRH) in Fergus Falls. In 2017-2018, the DPP developed new positions and relationships with the VAHS, Sanford Imagenetics program, Essentia Health, and an additional position with Family HealthCare, expanding opportunities for faculty and student involvement in advanced IPP opportunities for diverse patient populations.

PharmD IPE Program Structure, Outcome Mapping and Curricular Component Integration

The SOP IPE program includes didactic, laboratory, experiential, and co-curricular components including patient care simulations using summative and formative instructional approach/assessment (Appendix
The IPE program is structured to introduce components of IP and team education early in the curriculum. Activities/components are mapped to Interprofessional Education Collaborative (IPEC) competencies and specific PharmD programmatic Ability-Based Outcomes (ABOs) (Appendix 11E). ABOs 3.4.1, 3.4.2 and 3.4.3 (Interprofessional Collaboration) are the primary outcomes but other supportive ABOs (ABO 3.6 Communication, ABO 4.2 Leadership, 4.4 Professionalism) that provide a strong foundation for skills and abilities of team collaboration and dynamics when a second health profession is present are mapped as well.

During P1-P3 years, activities and assessment for ABOs 3.6, 4.2, and 4.4 along with specific IP collaboration competencies (3.4.1, 3.4.2 and 3.4.3) are integrated into the didactic, laboratory, IPPE curriculum, and co-curriculum, to support IP team collaboration dynamics culminating with APPEs. Throughout the P1-P2 years, pharmacy students, alongside other health professions, learn about, from, and with each other preparing for effective practice collaboration to provide safe and effective patient care and improve patient outcomes. Once students understand other professions, develop good communication, interpersonal, clinical, and teamwork skills, they apply and further reinforce these skills during complex high-fidelity patient simulations with nursing and medical students during P3 year, and culminate in APPEs while practicing alongside other health professions and/or students as members of IP collaborative practice teams.

P1 Year
Principles of IPE and IPEC competencies are introduced to P1 students in PHRM 350 Introduction to Pharmacy Practice and are reinforced during P1-P2 years in IPE Grand Rounds and a newly established co-curricular program that matches UND first-year medical with NDSU first-year pharmacy students. IPE Grand Rounds are a series of co-curricular IP presentations offered each semester to all students within the College. Each 50-min session covers at least one IPEC competency and consists of a 35-minute presentation by a health professional, a 10-min IP active learning exercise and discussion, and a 5-min assessment via Qualtrics survey (Appendix 11F). This co-curricular activity is planned and organized by the College IPE Committee comprised of faculty from each academic unit. Pharmacy students choose 1-2 of the sessions each semester during P1-P2 years as a required co-curriculum element.

During the summer in PHRM 355 Institutional Practice IPPE I, P1 students identify at least one non-pharmacy member of the healthcare team to interview and/or shadow to gain an understanding of role and responsibilities. Afterwards, students use guided questions to complete a reflective assessment on their IPE experiences which is then reviewed by the IPPE Director. In Summer 2019, a new IPPE Healthcare Professional/Student and Patient Interaction tool was launched to better track interactions and IPE activities during IPPE I and IPPE II (see Standard 12).

P2 Year
P2 students complete CHP 400 IP Health Care Practice a 3 credit course alongside nursing, allied health, social work, and dietetics students. Weekly asynchronous pre-recorded lectures are complemented with in-class role-play, small group discussion, case-based learning with standardized patient colleagues, and simulated team-based practice experience using trained volunteers to represent patients and family
members (Appendix 11G). During the summer, P2 students interact with other members of the healthcare team during PHRM 455 Community Practice IPPE II, respond to a drug information request from a provider, and use guided questions to complete a reflective assessment on their IPE experiences (Appendix 11H).

**P3 Year**

P3 students participate in an online IP opioid simulation in the PHRM 560 Special Topics (Appendix 11I) and complete an IP high-fidelity simulation with nursing students (Appendix 11J). The SOP public health poster presentation day organized by the Department of Pharmacy Practice (DPP) as part of PHRM 540 Public Health class is open to all professions in the College and provides additional IP opportunity. In the co-curriculum, P3 students participate alongside second-year medical students in an emergency medicine-focused, high-fidelity clinical simulation at the UND Simulation Center in Grand Forks, an activity initiated in 2018 (Appendix 11K).

**P4 Year**

During the P4 APPE curriculum, students participate in General Medicine/Acute Care rotations exposing them to IPP. A large number of ambulatory care, community pharmacy, institutional, and elective APPEs offer IPP and team-based practice. As of 2014, select pharmacy and medical students are paired on rural APPE in the Interprofessional Student Community-based Learning Experiences program with UND. Students identify a shared patient and each works up the patient in their scope of practice. When completed, students discuss findings together, identify gaps in care, and provide recommendations to providers on site if applicable. A short phone debrief facilitated by UND clinical faculty and the SOP APPE Director is conducted with the students. Annually less than 10 P4 pharmacy students participate in this, however future expansion is planned. During P4 year, all students complete and log a minimum of 10 IPE activities in E*Value (e.g. patient care rounds with prescribers, interactions with student prescribers, multidisciplinary education, and providing medication information to members of the healthcare team) that are evaluated/reviewed by the APPE Director and SOP Experiential Education Committee. A large proportion of these logged activities are with physicians or nurse practitioners. See Standard 13 for more information.

**Postgraduate**

As part of postgraduate education, the DPP has two co-joined PGY-1 pharmacy residency programs and supports three residents. Residents are incorporated into hospital and clinic IP teams. Interprofessional activities include IP team rounding, student-led “Falls Team” visits to patient’s homes with a public health nurse, presentation of the “Falls Cases” to the preceptors of the IP team (including PharmD, RN, PT, OT, and geriatric NP), psychiatric medication review via an IP team of providers (e.g. nurses, PT/OT, and social workers), and opioid stewardship team of physicians, pharmacists, nurses, and social workers.

**Assessment and Continuous Improvement of the IPE Program**

Directors of APPE and IPPE ensure that high quality experiential IPE/IPP opportunities are included in introductory and advanced experiences. They work with the SOP Curriculum Committee that recommended inclusion of new IPE activities to IPPEs (e.g. health profession shadowing). The Director for Experiential Outreach and Assessment provides information to preceptors regarding IPE/IPP during
preceptor development presentations and ensures they are informed that all IPE assignments listed in experiential course syllabi are required and that IPE/IPPE experiences are strongly encouraged through any IPPE and APPE rotation. New pharmacy faculty joining CHP 400 continue to improve course activities, mapping, and assessment. The biggest deficiency in our IPE program is the need for refining of the processes and responsibilities for comprehensive, hands-on oversight of the IPE program including assessment, especially related to didactic, simulated and co-curricular activities.

Assessment techniques for IP team dynamics and team-readiness range from formative feedback, discussion, debriefings to summative assessment via standardized rubrics, quizzes, reflection papers, and team-based cases (Appendix 11D). Outcome summative data of IP team-readiness is provided in Appendix 11L incorporating summative outcomes for 3 consecutive academic years from IP activities supporting ABO domain 3.4. There is progression of IP team readiness from P1 through P4 years and increased provision of patient care as team members of IP teams. Appendix 11M provides a comprehensive 3-year assessment of students’ IP team dynamics outcomes for each pharmacy year. Appendix 11N reports summative assessment data for 2018-2019 and demonstrates integration and sequencing of individual ABOs linked to individual IPEC competencies and overall programmatic outcome data for IPEC competencies. Data demonstrate good horizontal and vertical integration of team dynamics from ABO 3.6 (Communication), 4.1 (Leadership), and 4.4 (Profesionalism) and IP team dynamics from ABO 3.4 domain (IP Collaboration) throughout the PharmD curriculum. Program-level outcome data demonstrate IP team readiness and students’ outcome data competency in IP team dynamics (Appendix 11L-N).

AACP Survey Data
The program scored above the national average for questions 3, 15 and 38 from the graduating class on AACP surveys from 3 consecutive academic years from 2016-2019. An average score of 94.6% indicated students agreed/strongly agreed that learning experiences with other professional students helped them better understand how to be part of a multidisciplinary team vs a 91.0% national average. All students (100.0%) strongly agreed/agreed that pharmacy practice experiences allowed them to collaborate with other health care professionals vs a national average of 98.0%. Importantly, 99.2% students agreed/strongly agreed that the PharmD program prepared them to engage as a member of an IP healthcare team vs a national average of 96.1%. These results reflect opportunities in our curriculum and exposure to IP team practice during pharmacy practice experiences for all graduating students. The number of preceptors who strongly agreed/agreed that PharmD program prepares students to engage as a member of an IP healthcare team increased from 2016-2018 (93.7% vs 97.7%), at or above national average scores (Appendix 11L).

In summary, our IPE program is continually improving in the area of IP experiences, including experiences with prescribers, and assessment, and program-level outcome data demonstrate IP team readiness and students’ outcome data competency in IP team dynamics.

Notable
New curricular activities with UND medical students and providers were incorporated during 2018-2019 to ensure compliance with the standard addressing interactions with prescribers as follows:
1) UND/NDSU pre-simulation and simulation day. The pre-simulation day was added after the inaugural 2018 UND/NDSU simulation to increase interaction among team members, provide opportunities to learn about each profession (i.e. education, postgraduate education, clinical responsibilities in emergency department), and discuss strategies and approaches to team work and team dynamics during simulation.

2) Pairing in ratio of 1:1 or 1:2 of a first-year medical and pharmacy students for the 4-year duration uses face-to-face interactions, face time technology and online assignments. This ensures that pharmacy students learn about, with, and from each other in each term of the PharmD curriculum and interaction starts early in their professional year. This program launched on September 19, 2019 at UND School of Medicine and Health Sciences where the students met for a short educational program and reception.

4) **College or School’s Final Self-Evaluation: Self-assess** how well the program is in compliance with the standard by putting a check in the appropriate box ✓:

<table>
<thead>
<tr>
<th>Compliant</th>
<th>Compliant with Monitoring</th>
<th>Partially Compliant</th>
<th>Non Compliant</th>
</tr>
</thead>
<tbody>
<tr>
<td>No factors exist that compromise current compliance; no factors exist that, if not addressed, may compromise future compliance.</td>
<td>No factors exist that compromise current compliance; factors exist that, if not addressed, may compromise future compliance /or Factors exist that compromise current compliance; an appropriate plan exists to address the factors that compromise compliance; the plan has been fully implemented; sufficient evidence already exists that the plan is addressing the factors and will bring the program into full compliance.</td>
<td>Factors exist that compromise current compliance; an appropriate plan exists to address the factors that compromise compliance and it has been initiated; the plan has not been fully implemented and/or there is not yet sufficient evidence that the plan is addressing the factors and will bring the program into compliance.</td>
<td>Factors exist that compromise current compliance; an appropriate plan to address the factors that compromise compliance does not exist or has not yet been initiated /or Adequate information was not provided to assess compliance</td>
</tr>
</tbody>
</table>

5) **Recommended Monitoring: If applicable, briefly describe issues or elements of the standard that may require further monitoring – N/A**
Mission and Vision Statements

School of Pharmacy

Mission
The School of Pharmacy educates the next generation of highly competent, caring, and ethical pharmacists and scientists through a high quality contemporary curriculum emphasizing innovative interprofessional education and research/scholarship which serves the needs of North Dakota, region, nation, and world.

We will accomplish this by:

- Fostering a culture that values competency, caring, ethics, inclusivity, and professionalism.
- Delivering an effective curriculum that prepares students to work in diverse settings and interprofessional teams.
- Collaborating with key partners and stakeholders to enhance teaching, research/scholarship, practice, professional experience, and service opportunities.
- Utilizing interprofessional approaches in teaching, research/scholarship, clinical practice and service efforts.
- Providing professional and interprofessional development opportunities for faculty, staff, students, alumni, pharmacists, and preceptors.
- Securing sufficient financial, physical, and human resources to engage in effective teaching, research, practice, and service.
- Continually improving the quality of education, and research/scholarship.
- Developing pharmacists and scientists to meet the health care needs of the state, region, nation, and world.

Vision
The School of Pharmacy will be a nationally recognized leader in pharmacy education, research, and outreach which is known for its high quality and impact on improving human health.

Indicators that we are moving toward our Vision:

- Students and graduates are sought after as caring, competent, and ethical health professionals and researchers.
- Graduates have a high level of achievement as measured by licensure and certification exams and job placement.
- Faculty are recognized for best practices in teaching, curriculum improvement, and as leaders by discipline-related organizations.
- The School is nationally recognized for innovations in rural healthcare.
- Faculty and graduates discover and disseminate new knowledge as demonstrated by competitively funded research, high quality scholarly publications, and innovative product and practice development.
- Alumni are recognized for their consistent high level of achievement, leadership and involvement in professional organizations, and sustained contributions to their profession.
- Faculty have the resources of staff, time, space, and money to accomplish excellence in teaching, research, practice and service.
- Our impact will be local, national and global.

Approved: SOP Faculty Meeting, September 6, 2018

Pharmaceutical Sciences

VisionThe Department of Pharmaceutical Sciences will be a recognized leader in pharmaceutical sciences by achieving excellence in research, teaching and service through innovation, collaboration and professionalism.

Indicators that we are moving toward our Vision:

- Ranking among the top 20 Pharmaceutical Sciences research and graduate programs in the U.S. based on the number and quality of graduate students and faculty, extramural funding, publications and infrastructure.
- Number and quality of publications in peer-reviewed journals.
- Research, teaching and service awards.
The number of new collaborative projects advancing our mission.
Business alliances with biopharmaceutical industries.

**Mission** The mission of the Department of Pharmaceutical Sciences is to educate and train future pharmacists and scientists and to advance pharmaceutical research that improves human health.

We will accomplish this by:

- Improving the quality of teaching and mentoring professional and graduate students.
- Conducting high-quality research in prevention, diagnosis and treatment of diseases and disseminating the results in leading scientific journals and conferences.
- Providing professional service to the College, University, and the scientific community.
- Establishing internal and external partnerships, collaborations and strategic alliances to advance our mission.

**Pharmacy Practice**

**Mission** The mission of the Department of Pharmacy Practice is to educate students and practitioners, advance research/scholarship, deliver quality evidence-based patient-centered care, and provide service to the profession.

We will accomplish this mission by:

- Developing students and graduates who are recognized as competent health care professionals.
- Providing a relevant, practical, integrated, and outcome-driven curriculum.
- Promoting interprofessional health care within the state.
- Providing quality and diversified introductory and advanced pharmacy practice experiences.
- Securing financial, physical, and human resources to engage in effective teaching, research/scholarship, practice, and service.
- Providing an organizational environment that fosters recruitment, retention, engagement, and promotion of faculty and staff.
- Promoting collaboration within the Department as well as among the College, University and external organizations.
- Providing community-based outreach to promote healthy populations and vital communities in North Dakota.
- Providing training to support the development of practitioners that reflects the changing landscape of health care and pharmacy profession
- Supporting the role of the pharmacist in rural and public health.
- Supporting post-graduate pharmacy education including pharmacy residency programs and the dual degree Doctor of Pharmacy (Pharm.D.) and Master of Public Health (MPH) program.

**Vision**
The vision of the Department of Pharmacy Practice is to be a national leader in pharmacy education and care through a high-quality outcome-driven pharmacy curriculum, effective and novel instructional strategies, innovative practice models, high quality research/scholarly activities, as well as state and national services that efficiently, effectively, ethically, and continuously meet the changing needs of populations in the United States.

---

**STUDENT FOCUSED. LAND GRANT. RESEARCH UNIVERSITY.**

_North Dakota State University_

Phone: +1 (701) 231-7456 / Fax: (701) 231-7606
Campus address: Sudro Hall 123  [https://www.ndsu.edu/alphaindex/buildings/Building::202>
Physical/delivery address: 1401 Albrecht Boulevard, Fargo, ND 58102
Mailing address: NDSU Dept. 2650 / PO Box 6050 / Fargo, ND 58108-6050
Page manager: NDSU School of Pharmacy  [www.ndsu.edu/pharmacy/contact/]

REPORT (no bias, bigotry, hate)  [http://www.ndsu.edu/biasreport>

Last Updated: Friday, September 28, 2018 9:43:19 AM
Privacy Statement  [https://www.ndsu.edu/privacy/>
### TABLE OF CONTENTS

**Introduction** .................................................................................................................................................. 3

**General FAQ**

- Academic Advisers ......................................................................................................................................... 4
- Credits ............................................................................................................................................................. 4
  - Credit Limit, Transfer, Challenge, College Entrance Examination Board (CLEP)
- Degrees (Curriculum Requirement) .................................................................................................................. 5
- General Education Requirements .................................................................................................................... 5
- Grades and Academic Status ........................................................................................................................... 5
  - G.P.A., Retakes, Current Competency
- Major/Minor .................................................................................................................................................... 6
- Minors of Study ............................................................................................................................................... 6
- Registration ....................................................................................................................................................... 7
- Withdraw From School ..................................................................................................................................... 7
- Other Questions ................................................................................................................................................ 7

**Where to Go for Help** ..................................................................................................................................... 8

**Policies & Regulations**

- Certification ..................................................................................................................................................... 10
- Criminal Background Check Policy 3.08 .............................................................................................................. 10
- Current Competency in Coursework Policy 2.28 ............................................................................................... 11
- Degrees ........................................................................................................................................................... 11
- Examination Administration Policy 3.30 ........................................................................................................... 11
- Health Insurance Policy 3.07 ........................................................................................................................... 14
- Health Vaccines/Exposure to Biohazard ........................................................................................................... 14
- Minimum Grade Requirement for Pharmacy Coursework Policy 3.21 .............................................................. 15
- Pre-Pharmacy and Professional Pharmacy Majors ............................................................................................. 15
- Prerequisites for Professional Courses Policy 3.23 ........................................................................................... 16
- Professional Dress Policy 3.09 ........................................................................................................................ 16
- Professional Electives Policy 3.26 ...................................................................................................................... 16
- Professional Liability Insurance ........................................................................................................................ 18
- Repetition of Pre-Pharmacy Core Courses Policy 2.21.1 .............................................................................. 18
- Repetition of Professional Pharmacy Courses Policy 3.24 ............................................................................ 18
- Scholarships and Awards ................................................................................................................................ 18
- Status Documentation Policy 3.06 ..................................................................................................................... 19
- Student Academic and Conduct Standards Policy 3.01 ................................................................................... 19
- Student Complaint Policy 3.28 ........................................................................................................................ 24
- Student Technical Standards Policy 3.29 ........................................................................................................... 26
- Substance Misuse Testing Policy 3.14 ............................................................................................................... 28
- Technology Requirements for Pharmacy Students .......................................................................................... 29
- Termination – Right to Terminate Enrollment Policy 3.03 ............................................................................. 31
- Tuition ............................................................................................................................................................... 31

**Pre-Pharmacy Students**

- Pre-Pharmacy Curriculum (two year & three year track) .............................................................................. 32
- Admissions Policy .......................................................................................................................................... 34

**Professional Students**

- Pharm.D. Program-Level Ability-Based Outcomes .......................................................................................... 37
- Appendix I. Self-Awareness Examples ............................................................................................................ 47
- Appendix II. Professionalism Examples ........................................................................................................... 49
- NDSU School of Pharmacy Co-Curriculum ...................................................................................................... 51
- Pharm.D. Course Descriptions and Prerequisites .......................................................................................... 52
- Pharmacists Patient Care Process ................................................................................................................... 57
- Pharm.D. Curriculum ...................................................................................................................................... 59
- Experiential Program (IPPE & APPE) ............................................................................................................. 60
- Post Graduate Residency FAQs ...................................................................................................................... 62
- Pharm.D./MBA Option .................................................................................................................................... 64
- Master of Public Health Program .................................................................................................................... 67
- Pharm.D./MPH Option .................................................................................................................................. 67
- Pharm.D./Ph.D. Option ................................................................................................................................... 75

**Pharmacy Student Activities & Organizations** .......................................................................................... 77
Welcome to the College of Health Professions. We are excited that you are a student in our professional program and I want to provide for you some information that I hope will be of assistance to you during your academic journey with us.

A very important person during your time with us is your advisor. This individual is available to assist you in planning your program of studies and answer questions about future career options. I urge you to meet regularly with your advisor especially if you have any questions, concerns or need help with any academic, College, or campus issues. Faculty and staff are prepared to work with you on an individual basis and help guide you through your journey with us. Additional career information can also be found in our Administrative Offices in Fargo - Sudro 123 and by attending our Annual Career Fair in September at the FargoDome.

The professional curriculum is designed to challenge you and to teach you to become an independent learner and to work in collaborative interprofessional healthcare teams. Therefore, students are expected to take a very active role in their education and take responsibility for their own learning. Student active learning is a major emphasis of our program. You will be asked to apply your knowledge, dig for the answers to questions, communicate both verbally and in writing, critically think and problem-solve through case discussions, practice team-based care with students from other disciplines, and participate in numerous experiential activities. I encourage you to ask questions in class and to learn by understanding and applying the material presented rather than by simply memorizing factual information. The goal of our curriculum is for you to achieve the necessary life-long learning skills which will become important to you in your future career as a health professional to be able to “keep up” with the plethora of new information associated with our rapidly changing health care system. Your ultimate success will be determined by the amount of effort you are willing to put into your academic studies. So work hard and give your best effort in all that you do. If you give us your best, you will receive the best in your educational experience with us. It will also be important that you learn more than just the technical skills of practicing in your discipline but that you also learn what it means to become a health professional and practice professionalism in every and all situations. You will need to learn how to practice ethically, responsibly, with honesty, integrity, and good moral character and treating others (especially your patients) with compassion, caring, understanding, and respect which is expected of any health professional. These will be the keys to your future success as a health professional.

We desire to provide a positive learning environment for all students here within the College and we strive to continually improve our program. Students are a very important part of this process and we actively solicit your input and active participation through various formats. Students are elected from each class to serve on the Dean’s Student Liaison Committee. This committee meets with the Associate Dean for Student Affairs & Faculty Development throughout the year to bring student concerns to the attention of the administration. In addition, the College holds a Deans’ Open Forum each semester to allow students an opportunity to interact directly with the Dean (and his administrative leadership team) on matters of interest and concern to students. And I also want you to know that my door is always open to you, so please don’t hesitate to stop by my office if you need my assistance for anything. We encourage you to use these sources as well as visits with faculty, or any of the members of the staff in our Administrative Offices whenever you have issues that need to be brought to our attention. In addition, I encourage you to become actively involved with your profession by joining one of our student professional organizations. This is a great way to learn about what’s going on within your profession and begin contributing to the advancement of your future professional career and practice.

This “Handbook” is devoted to academic information to help enhance student success within our program. We hope you find it helpful to you. I wish you much success in your educational pursuits with us and in your later professional practice.

Best wishes to you for a successful year!

Charles D. Peterson, Pharm.D.
Dean, NDSU College of Health Professions
GENERAL FAQ

AN INFORMAL GUIDE: The following is a series of informal responses to questions most frequently asked about rules and procedures at NDSU. For further information, please refer to the current NDSU Bulletin (www.ndsu.edu/bulletin), your adviser, Administrative Office in Sudro 123, the Office of Registration & Records in Ceres 110, or One Stop in the Memorial Union.

ACADEMIC ADVISERS

Who is my adviser? Students in the pre-pharmacy and professional pharmacy program are assigned an adviser. It is important to meet with your adviser on a regular basis to receive updated curricular information. Advisers help students learn how to complete the registration procedures. Students are responsible for the course and program selections which they make. However, an adviser is a valuable source for acquiring information about the advisability of student choices. (If you desire a change of adviser, please contact the Associate Dean for Student Affairs & Faculty Development, School of Pharmacy, 231-7601.)

Do I need to see my adviser about my semester schedule? Yes, make an appointment with your adviser during advising week to plan your schedule of classes. Dates for advising and registration are available on the Office of Registration & Records web site (www.ndsu.edu/registrar) and “The Spectrum,” published twice per week when full semester classes are in session.

CREDITS

How many credits do I need to be a Sophomore, a Junior and a Senior? You need 27 credits to be classified as a Sophomore, 60 credits to be classified as a Junior, and 90 credits to be classified as a Senior. To graduate, you must successfully complete all general education requirements, the requirements in your major, and with a minimum of 2.0 grade point average. A complete list of University requirements for graduation is in the current NDSU Bulletin.

What is the limit on the number of credits I can take per semester? Full-time students will carry from 15 to 19 credits per Semester. Registration for more than 20 credits is not recommended. Special permission from your adviser and a grade point average of at least 3.0 are required to register for more than 20 credits. You must obtain a “Petition to Enroll in More Than 20 Credits” form under the link, “Over 20 Credits Petition,” at www.ndsu.edu/registrar/forms.

How many credits will I lose when I transfer to NDSU from another school? Ordinarily you shouldn't lose any. However, a "D" grade in any course does not transfer to the College of Health Professions. Some technical courses may not fit your degree program and in this case some extra work may be required. For evaluation of transfer credit see current NDSU Bulletin.

How many credits can I transfer from a junior or community college? All college-level credits from regionally accredited institutions transfer; however, not all may apply to the particular degree program you have selected. To obtain a baccalaureate degree you must complete at least 60 semester credits at a four year college or university. At least the last 37 of these credits must be at the junior or senior level. (See current Bulletin.)
How do I challenge a course? A student who is currently registered may seek credit by challenging a course. A course challenge usually consists of a special comprehensive examination; however, additional types of performance may be required for some courses. A course challenge is only permitted for courses in which the student has not received transfer credit or has no previous academic record. Prior registrations are allowable if course was dropped prior to the No Record Drop deadline in a given term. Student must be registered at NDSU during the semester in which you wish to challenge a course (see current NDSU Bulletin for complete descriptions). Procedures for pursuing a course challenge may be found at: www.ndsu.edu/fileadmin/registrar/forms/challenge.pdf

Is it possible to obtain college credits by taking examinations of the College Entrance Examination Board (CLEP and AP)? Yes. Students may demonstrate evidence of college-level achievement through the use of nationally standardized tests. Competency to write these examinations may have been gained through intensive preparation in high school, extensive reading in a particular field, or other types of formal or informal preparation. A student may not repeat by proficiency testing a course that has been previously taken or failed at NDSU or another accredited institution. Score reports must be sent directly to NDSU from the awarding agency/board. School reports and student-issued grade reports are not considered official for purposes of awarding credit by examination.

DEGREES (CURRICULUM REQUIREMENT)

How do I petition for a waiver or substitution of a curriculum requirement? To petition, you must obtain a “Request to Waive or Substitute Courses” form under the link, “Substitute/Waive a Course” at www.ndsu.edu/registrar/forms. In this petition, which is presented to the Academic Affairs Committee of the College of Health Professions, you state exactly why you think you should have a waiver. The Committee will review your petition and you will be notified of their decision. (Petitions should be submitted only when special circumstances make it virtually impossible for you to meet the regular degree requirements.) Only departmental and college requirements may be waived. University requirements may not be waived.

GENERAL EDUCATION REQUIREMENTS

Who must complete the General Education Requirements? The General Education Requirements apply to all students.

What are the General Education Requirements? The General Education Requirements are listed in the current NDSU Bulletin. A list of the courses approved for the different categories is provided at www.ndsu.edu/registrar/academics/gened.

General Education transfer with the ND University System. Students who plan to transfer from one institution to another in the ND University System should check with Office of Registration & Records in Ceres 110 or One Stop in the Memorial Union.

GRADES AND ACADEMIC STATUS

What is the G.P.A.? Grade Point Average. For each credit of “A” you receive four (4) honor points; three (3) for each credit of “B”; two (2) for each credit of “C”; one (1) for each credit of “D”; and zero (0) for each credit taken in which a grade of “F” is received. The GPA is computed by dividing the total number of honor points earned at NDSU by the total number of credit hours in which honor points were recorded. For example, a person with a G.P.A. of 3.00 has a grade average of “B.” The minimum GPA of 2.00 is required for graduation. Developmental courses do not count toward graduation requirements.
If I do not do well in a course, may I take it over again? Yes. The second grade, whether higher or lower, will replace the first grade in computing the GPA. Both grades are listed on your Permanent Record. To replace a grade for a course taken at NDSU, that course MUST be repeated at NDSU. The one exception is that NDSU students may register for a Tri-College course to repeat a course previously taken at NDSU.

NOTE: PROFESSIONAL COURSES IN THE PHARMACY PROGRAM - please refer to Policy #3.24, Repetition of Professional Courses, in the College Policy Manual.

NOTE: PRE-PHARMACY CORE COURSES, Policy #2.21.1 - The total number of pre-pharmacy core courses which may be repeated shall be limited to three. The grade received during the student’s final attempt for any core pre-pharmacy course will be used in evaluation for admission. A withdrawal is not considered an attempt. A core course is one that is included in the GPA for admission purposes.

CURRENT COMPETENCY, Policy #2.28 - Coursework in the areas of science and mathematics must be no more than seven years old at the time of application to the professional program. Coursework presented in these areas that is older than seven years must have current competency demonstrated. Current competency may be demonstrated by a) retaking a portion of the series in question, i.e. 122 of 121/122 Chem series; b) enrolling in a formal audit that is indicated on a student’s official transcript; c) challenging coursework through the department in question; or d) meeting with faculty in the areas of Science or Mathematics and having them determine current competency. Students who intend to meet current competency requirements using item c or d must receive approval from the Chair of Pharmacy Admissions Committee prior to undertaking the current competency. (This coursework does not fall under the rule, “Repetition of Pre-Pharmacy Core Courses.)

Will I receive mid-term grades? Upon request, all instructors shall inform students directly of their approximate mid-term grades before the end of the eighth week of the semester.

MAJOR/MINOR

How do I change my major? Occasionally students find they are not suited for a particular field. If you decide to change majors while you are a student in the College, you are expected to follow this procedure: discuss it with your adviser, fill out the electronic form “Major/Minor and Adviser Change Form,” www.ndsu.edu/registrar/forms. You will be assigned a new adviser in the field in which you will be majoring. Once you select a major, you must transfer to the college that offers the major.

How many credits are required for a Minor? The number of credits required for a minor varies by departments. The minimum number of credits for a minor is 16. To determine the exact number of credits that you will need for a minor, check with your adviser, or in Ceres 110 or One Stop.

MINORS OF STUDY

What do you recommend? The following is a partial list of minors that may be of interest to pre-pharmacy and pharmacy students. Go to the following web page, https://www.ndsu.edu/majors/, and select the program of study from the list.

Accounting

Biotechnology

Business Administration

Chemistry: The Chemistry Minor is given automatically with the BS in Pharmaceutical Sciences degree.
Gerontology

Microbiology: (Students interested in a microbiology minor must take Micr 350 and 350L, instead of Micr 202 and 202L.)

Psychology – Neuroscience Minor

Psychology

Spanish

Curriculum Guides for all Majors and Minors:

https://www.ndsu.edu/registrar/academics/curricula/

REGISTRATION

How do I register for courses? Students will use the “Campus Connection Student Portal” via the NDSU Home Page in which to register for classes. Students will also use this portal for the following: account information, class list for the semester, course catalog of classes, drop/adds, financial aid information, holds, schedule of classes for the semester, unofficial transcripts, and much more (www.ndsu.edu/onestop/connect).

WITHDRAWING TO ZERO CREDITS

How do I withdraw to zero credits? If you find it necessary to withdraw to zero credits during any semester in which you are enrolled, you must file a completed "Cancellation of Registration/Withdrawing to Zero Credits" form at www.ndsu.edu/registrar/forms and select the link “Withdraw to Zero Credits (cancellation or registration). Process your withdrawal at One Stop in the Memorial Union, during regular business hours, Monday through Friday. Refer to the University's official dates and deadlines, www.ndsu.edu/onestop/, for the last day to withdraw. Withdrawals after this date are not processed without evidence of compelling circumstances beyond the student’s control. If you do not want to attend the next semester but are finishing the semester you are presently enrolled in, simply do not register for the next semester.

OTHER QUESTIONS

What if I think a course is of poor quality or an instructor is unfair? Talk with the instructor first. If the situation is not resolved, notify the department chair or the Senior Associate Dean. Such information is important if improvement is to be brought about now or in the future. Remember that even if changes cannot be made immediately, your comments are taken seriously.

What if I think a course or instructor is exceptionally good? Tell the instructor and notify the department chair and the Senior Associate Dean.

What if I think I have been treated unfairly? Bring your situation to the attention of your adviser, the Department Chair, the Dean of your college, the Senior Associate Dean, or the Associate Dean for Student Affairs & Faculty Development in the College of Health Professions. You may be advised to prepare a petition for relief from a bad situation or unfair decision.

Can I see the Deans? The Dean of the College of Health Professions is Dr. Charles Peterson. He is eager to meet students and is deeply concerned about the kind of education they receive, as well as problems facing students at NDSU. To set up an appointment with him, contact his assistant at 231-5383. The Dean's Office is in the Administrative Office, Sudro Hall 123.

Dr. Cynthia Naughton, Senior Associate Dean, oversees curriculum and assessment activities within the College of Health Professions. She is concerned about students and can assist with academic and career issues. She may be reached at 231-9489, Sudro Hall 123.
Dr. Daniel Friesner, Associate Dean for Student Affairs & Faculty Development, handles student affairs within the College of Health Professions. He is concerned about students and can assist with personal, career and admissions issues. He may be reached at 231-7601, Sudro Hall 123.

Department Chairs in the Pharmacy Program are: Pharmaceutical Sciences – Dr. Jagdish Singh, 231-7661, Sudro Hall room 136; Pharmacy Practice - Dr. Marketa Marvanova, 231-7589, Sudro Hall 118A1.

## WHERE TO GO FOR HELP

<table>
<thead>
<tr>
<th>TOPIC/PROCEDURE:</th>
<th>SOURCE/CONTACT:</th>
<th>LOCATION:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Academic Deficiencies</td>
<td>• Adviser&lt;br&gt;• Senior Associate Dean - Dr. Naughton&lt;br&gt;www.ndsu.edu/registrar&lt;br&gt;• Current NDSU Bulletin <a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td>Sudro 123 231-9489 Ceres 110 231-7981</td>
</tr>
<tr>
<td>Academic Policies</td>
<td>Current NDSU Bulletin <a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td></td>
</tr>
<tr>
<td>Add or drop a course</td>
<td>• Adviser&lt;br&gt;• Office of Registration &amp; Records <a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a></td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td>Advanced Placement</td>
<td>• The individual departments&lt;br&gt;www.ndsu.edu/registrar/br&gt;Current NDSU Bulletin <a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td>Appeal for exception to academic regulations</td>
<td>Office of Registration &amp; Records <a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a></td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td>Appeal a grade</td>
<td>Student Rights &amp; Responsibilities refers to the Grade Appeals Board at: <a href="http://www.ndsu.edu/fileadmin/policy/337.pdf">www.ndsu.edu/fileadmin/policy/337.pdf</a></td>
<td>Memorial Union 250, main level 231-6560</td>
</tr>
<tr>
<td>Apply for loan</td>
<td>• NDSU Financial Aid and Scholarships <a href="http://www.ndsu.edu/onestop/finaid/loans/br%3EOne">www.ndsu.edu/onestop/finaid/loans/br&gt;One</a> Stop <a href="http://www.ndsu.edu/onestop/finaid/loans/">www.ndsu.edu/onestop/finaid/loans/</a></td>
<td>Memorial Union 176 231-6200</td>
</tr>
<tr>
<td>Apply for scholarship</td>
<td>Office of Admission</td>
<td>Ceres 114 231-8643</td>
</tr>
<tr>
<td>Change Majors within NDSU</td>
<td>eForm through the Office of Registration &amp; Records web site, <a href="http://www.ndsu.edu/registrar/forms">www.ndsu.edu/registrar/forms</a> - select “Major/ Minor and Adviser Change form”</td>
<td></td>
</tr>
<tr>
<td>Check content of courses</td>
<td>Current NDSU Bulletin &amp; Departments <a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td></td>
</tr>
<tr>
<td>Check on a grade</td>
<td>• Campus Connection Student Portal <a href="http://www.ndsu.edu/onestop/connect/br%3EInstructor">www.ndsu.edu/onestop/connect/br&gt;Instructor</a> of course</td>
<td></td>
</tr>
<tr>
<td>Credit by examination (Challenging a course, PEP or CLEP tests)</td>
<td>• Office of Registration &amp; Records <a href="http://www.ndsu.edu/registrar/br%3ECurrent">www.ndsu.edu/registrar/br&gt;Current</a> NDSU Bulletin <a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td>Disability Services</td>
<td>NDSU Disability Services <a href="http://www.ndsu.edu/disabilityservices/">www.ndsu.edu/disabilityservices/</a></td>
<td>Main Library, Suite 17 231-8463</td>
</tr>
<tr>
<td>Discuss academic problems</td>
<td>Senior Associate Dean - Dr. Naughton</td>
<td>Sudro 123 231-9489</td>
</tr>
<tr>
<td>Discuss personal problems</td>
<td>• Associate Dean for Student Affairs &amp; Faculty Development - Dr. Friesner&lt;br&gt;www.ndsu.edu/counseling/personal_counseling</td>
<td>Sudro 123 231-7601 Ceres 212 231-7671</td>
</tr>
<tr>
<td>Financial Aid Information</td>
<td>• NDSU Financial Aid and Scholarships <a href="http://www.ndsu.edu/onestop/finaid/br%3EOne">www.ndsu.edu/onestop/finaid/br&gt;One</a> Stop <a href="http://www.ndsu.edu/onestop/finaid/br%3ECurrent">www.ndsu.edu/onestop/finaid/br&gt;Current</a> NDSU Bulletin <a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td>Memorial Union 176 231-6200</td>
</tr>
<tr>
<td>Food Service</td>
<td>NDSU Dining (Residence Dining Center, Union Dining Center, West Dining Center)</td>
<td>Bison Court West 231-7001</td>
</tr>
<tr>
<td>TOPIC/PROCEDURE</td>
<td>SOURCE/CONTACT</td>
<td>LOCATION</td>
</tr>
<tr>
<td>------------------------------------------</td>
<td>-----------------------------------------------------</td>
<td>------------------------------------</td>
</tr>
<tr>
<td>General Education Requirements</td>
<td>• Registration Schedule</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin  [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Grades &amp; Honor Points</td>
<td>• Adviser</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Office of Registration &amp; Records [<a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a>]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Graduation Requirements</td>
<td>• Office of Registration &amp; Records [<a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a>]</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Health Service</td>
<td>• NDSU Wellness Center [<a href="http://www.ndsu.edu/wellness/">www.ndsu.edu/wellness/</a>]</td>
<td>Wallman Wellness Center, 231-5200</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td>Student Health Service, 231-7331</td>
</tr>
<tr>
<td>Housing</td>
<td>• University Residence Life Office [<a href="http://www.ndsu.edu/reslife/">www.ndsu.edu/reslife/</a>]</td>
<td>Bison Court West 231-7557</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Major Requirements</td>
<td>• Adviser</td>
<td>Sudro 123 231-7601</td>
</tr>
<tr>
<td></td>
<td>• This Handbook-see Pharmacy Curriculum</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Pharmacy Administrative Offices</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>One Stop</td>
<td>One-stop student service center (assistance</td>
<td>Memorial Union 176, main level,</td>
</tr>
<tr>
<td></td>
<td>from Customer Account Services, Registration &amp;</td>
<td>231-6200</td>
</tr>
<tr>
<td></td>
<td>Financial Aid and Scholarships) [<a href="http://www.ndsu.edu/onestop/">www.ndsu.edu/onestop/</a>]</td>
<td></td>
</tr>
<tr>
<td>Pass/Fail</td>
<td>• Adviser</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Office of Registration &amp; Records</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Pre-Professional Programs</td>
<td>• Office of Registration &amp; Records [<a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a>]</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Registration</td>
<td>• Office of Registration &amp; Records [<a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a>]</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Campus Connection Student Portal</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/onestop/connect/">www.ndsu.edu/onestop/connect/</a>]</td>
<td></td>
</tr>
<tr>
<td>Remove an Incomplete</td>
<td>Instructor of course</td>
<td></td>
</tr>
<tr>
<td>Residence Classification</td>
<td>• Office of Registration &amp; Records [<a href="http://www.ndsu.edu/registrar/">www.ndsu.edu/registrar/</a>]</td>
<td>Ceres 110 231-7981</td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Resident Assistants &amp; Peer Mentors</td>
<td>Ask at your Residence Hall Office if you don't</td>
<td></td>
</tr>
<tr>
<td></td>
<td>know your RA or Peer Mentor</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/reslife/">www.ndsu.edu/reslife/</a>]</td>
<td></td>
</tr>
<tr>
<td>ROTC Program - Air Force</td>
<td>• Benton-Bunker FieldHouse</td>
<td>Room 101 231-8186</td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/afrotc/">www.ndsu.edu/afrotc/</a>]</td>
<td></td>
</tr>
<tr>
<td>ROTC Program - Army</td>
<td>• Benton-Bunker FieldHouse</td>
<td>Room 103 231-7575</td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/armyrotc/">www.ndsu.edu/armyrotc/</a>]</td>
<td></td>
</tr>
<tr>
<td>Student Organizations</td>
<td>• Campus Directory</td>
<td>See Table of Contents</td>
</tr>
<tr>
<td></td>
<td>• College of Health Professions - has 11</td>
<td>Sudro 123 231-7601</td>
</tr>
<tr>
<td></td>
<td>pharmacy related students organizations</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Student Government [<a href="http://www.ndsu.edu/sg/">www.ndsu.edu/sg/</a>]</td>
<td>Memorial Union 128 231-8460</td>
</tr>
<tr>
<td></td>
<td>• Student Activities Office</td>
<td>Memorial Union 120 231-7787</td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/studentactivities/">www.ndsu.edu/studentactivities/</a>]</td>
<td></td>
</tr>
<tr>
<td>Study Abroad Programs</td>
<td>• International Student and Study Abroad Services</td>
<td>Memorial Union 116 231-7895</td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/International">www.ndsu.edu/International</a>]</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Study Skills</td>
<td>Education 123 (offered each semester) School</td>
<td>Main Office FLC 210 231-7921</td>
</tr>
<tr>
<td></td>
<td>of Education [<a href="http://www.ndsu.edu/education/">www.ndsu.edu/education/</a>]</td>
<td></td>
</tr>
<tr>
<td>Summer Study</td>
<td>• Current NDSU Bulletin [<a href="http://www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a>]</td>
<td></td>
</tr>
<tr>
<td>Transcript (official)</td>
<td>To request an official transcript</td>
<td></td>
</tr>
<tr>
<td></td>
<td>[<a href="http://www.ndsu.edu/registrar/records/transcripts/">www.ndsu.edu/registrar/records/transcripts/</a>]</td>
<td></td>
</tr>
<tr>
<td>Tri-College University Office</td>
<td>•Tri-College Downtown Campus Fargo [<a href="http://www.tri-college.org">www.tri-college.org</a>]</td>
<td>650 NP Ave Renaissance Hall #110 231-8170</td>
</tr>
<tr>
<td>TOPIC/PROCEDURE:</td>
<td>SOURCE/CONTACT:</td>
<td>LOCATION:</td>
</tr>
<tr>
<td>----------------------------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>Tutor</td>
<td>• Office of TRIO Programs <a href="www.ndsu.edu/trio/">www.ndsu.edu/trio/</a></td>
<td>Ceres 335 231-8028</td>
</tr>
<tr>
<td>ACE (Academic Collegiate</td>
<td>• Learning Services/Orientation Coordinator (ACE) <a href="www.ndsu.edu/studentsuccess/about_ace/">www.ndsu.edu/studentsuccess/about_ace/</a></td>
<td>West Dining Center room 20 (lower level) 231-5554</td>
</tr>
<tr>
<td>Enhancement)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Tutor - Math</td>
<td>Math Dept. Tutors and Math Instructors <a href="www.ndsu.edu/math">www.ndsu.edu/math</a></td>
<td>Minard 408 231-8171</td>
</tr>
<tr>
<td>University Honors Program</td>
<td>• <a href="www.ndsu.edu/honors">www.ndsu.edu/honors</a></td>
<td>Main Library room 06 231-9616</td>
</tr>
<tr>
<td>University Rules &amp; Regulations</td>
<td>• Current NDSU Bulletin <a href="www.ndsu.edu/bulletin/">www.ndsu.edu/bulletin/</a></td>
<td></td>
</tr>
<tr>
<td>Veterans Information</td>
<td>Office of Registration &amp; Records <a href="www.ndsu.edu/veterans">www.ndsu.edu/veterans</a></td>
<td>Ceres 211 231-7985</td>
</tr>
<tr>
<td>Withdraw to zero credits</td>
<td>One Stop <a href="www.ndsu.edu/onestop/">www.ndsu.edu/onestop/</a></td>
<td>Memorial Union 176, main level</td>
</tr>
<tr>
<td>Writing Skills</td>
<td>• Center for Writers <a href="www.ndsu.edu/cfwriters/">www.ndsu.edu/cfwriters/</a></td>
<td>Main Library, lower level, 231-7927 Minard 318 231-7143</td>
</tr>
<tr>
<td></td>
<td>• English 110/120 Instructors English Department, <a href="www.ndsu.edu/english">www.ndsu.edu/english</a></td>
<td></td>
</tr>
</tbody>
</table>

**POLICIES & REGULATIONS**

*Please note that additional policies and procedures not contained in this document apply to students in the college. Those policies and procedures are contained in the [College of Health Professions Policy manual](https://www.ndsu.edu/fileadmin/healthprofessions/documents/College_of_Health_Professions_Policy_Manual_5.1.2019.pdf).*

**CERTIFICATION**

Pharmacy students must obtain and maintain certification for American Heart Association (AHA) Basic Life Support (BLS) for Healthcare Providers. Each student is responsible for securing certification and for submitting verification of certification to the pharmacy practice department office (Sudro 118A) during the first professional year of the program and upon renewal while enrolled in the pharmacy program. The department of pharmacy practice office will provide students with additional information regarding CPR certification and renewal during the first and third professional years.

**CRIMINAL BACKGROUND CHECK POLICY 3.08**

NDSU (and the College of Health Professions) reserves the right to refuse admission or re-enrollment or to place conditions on admission or re-enrollment of applicants and former students, and suspend or terminate the enrollment of students, who NDSU and/or the College of Health Professions determine represents a safety risk to NDSU or the College, students, employees, property, or affiliated teaching sites and their employees and patients. An individual who is disqualified from having patient contact based on a background check may be unable to meet program requirements and/or to complete their intended degree. The State regulatory boards may deny licensure to an individual with a criminal background. All students will be required to complete a criminal background check as determined by their discipline. Students may be required to obtain two background checks (a multi-state and an FBI check) at multiple points in their educational program. Students who do not comply with the background checks, release of information, and the required deadlines for procuring background checks will be prevented from registering for and/or attending classes and/or professional program application(s).
CURRENT COMPETENCY IN COURSEWORK POLICY 2.28

Coursework in the areas of science and mathematics must be no more than seven years old at the time of application to the professional program. Coursework presented in these areas that is older than seven years must demonstrate current competency.

Current competency may be demonstrated by:
1. Retaking a portion of the series in question, i.e. 122 of 121/122 Chem series;
2. Enrolling in a formal audit that is indicated on a student's official transcript;
3. Challenging coursework through the department in question; or
4. Meeting with faculty in the areas of Science or Mathematics and having them determine current competency.

Students who intend to meet current competency requirements using item 3 or 4 must receive approval from the Chair of Pharmacy Admissions Committee prior to undertaking the current competency.

DEGREES

The College of Health Professions offers the following degrees:
1. Allied Sciences: Medical Laboratory Science, Radiologic Sciences, Respiratory Care: BS
2. Nursing: BSN, MS, DNP
3. Pharmaceutical Sciences: M.S., Ph.D.
4. Pharmacy: Pharm.D.
5. Pharm.D./MBA: In conjunction with NDSU College of Business.
6. Pharm.D./MPH: In conjunction with Public Health
7. Pharm.D./Ph.D.: In conjunction with the Department of Pharmaceutical Sciences
8. Public Health: Certificate, MPH

NOTE: For options 5, 6, and 7, students must first be admitted to the Pharm.D. program.

EXAMINATION ADMINISTRATION POLICY 3.30

The purpose of this policy is to provide expectations for student conduct related to examinations and ensure examinations given at the School of Pharmacy are adequately and consistently administered. Aside from maintaining academic integrity, examination procedures prepare the student for the stringent expectations of the professional licensure process.

Technology Requirements
1. Students must possess an iPad and accessories that meet the School of Pharmacy requirements.
2. Students must install and maintain a current version of the electronic testing software utilized for ExamSoft exam delivery on any device that will be used during an exam.
3. Students should be familiar with their iPad, testing software, and instructions prior to downloading an examination.
4. Students are expected to:
   a. Have an A/C power cord available AND a fully charged battery (at least 2 hours) for cases in which there is a power disruption during the examination OR an electrical outlet is not near the student’s assigned seat.
   b. Ensure that the internal clock is set to the correct date and time (CST/CDT).

Timing and Attendance at Examinations
1. Students requiring accommodations are to coordinate with the office of Disability Services prior to the delivery of the examination (NDSU Policy Manual Section 606).
2. Students are expected to be present for all examinations unless otherwise stated by the course instructor. All absences require appropriate documentation and instructor approval (NDSU Policy Manual Section 333).
   a. Students missing an examination due to an EXCUSED absence will be permitted to take a make-up examination timed at the discretion of the instructor.
Students missing an examination due to an UNEXCUSED absence may be granted the privilege of taking a make-up examination; however, the student will be subject to a penalty on their exam score.

In any case where a delayed or makeup examination is necessary, a comparable but different examination may be given. Faculty may assess in a different format from the original exam (e.g. multiple choice may be replaced with essay questions).

Students must be on time for examinations. Students arriving more than 15 minutes late, without proper justification, will be subject to penalty. Students arriving late must take the examination in a location determined by the individual administering the exam. Unless extenuating circumstances are cause for the delay and were unavoidable, they will receive no additional time.

Examination start times will not be delayed due to a hardware or software problem with a student's iPad. Students encountering a technical issue during an exam should notify the individual administering the exam. See Technology Issues.

Students are responsible for bringing their iPad to the examination room with the exam file already downloaded. Additional time will not be granted for downloading exam files when it was available prior to the exam session.

Examination Procedures

1. Faculty are responsible for being attentive to students during an exam.
2. Students may be asked for identification or sign an attendance log at any time.
3. Students are expected to maintain a decorum and demeanor consistent with accepted academic and professional standards at all times during examinations (NDSU CHP Policy Manual Section 3.9). Lack of professional decorum may result in dismissal from the exam, which will be considered an unexcused absence.
4. Students may be randomly seated during an examination.
5. An examination may take place during a time that is not part of their regular course schedule. This will be determined by the faculty and will be conveyed in the course syllabus.
6. Students are allowed ONLY the following items at their seat:
   a. iPad devoid of taped-on notes or markings that could be construed as “cheat sheets”
   b. Power adapter
   c. Standard (non-mechanical/non-refillable) #2 pencils
   d. Scratch paper if allowed would be provided by the faculty member as colored paper and must be turned in and signed at the end of the exam
   1) Non-programmable calculator
   3) iPad stylus
7. Students must leave ALL personal items in student lockers or place at the front of the testing room if a lockers is unavailable. Restricted items includes, but is not limited to:
   a. Food and drinks
   b. Books, notes, study aids, etc. (unless specifically permitted by the instructor)
   c. Mechanical/refillable pencils/pens/pencil cases
   d. Bulky coats/hoodies (students are instead encouraged to dress in layers, ideally in sweaters/light jackets)
   e. Hats/caps (unless worn for religious purposes)
   f. Watches (regardless of type)
   g. Electronic devices
   1) Activity tracking devices
   2) Cell phones
   3) Programmable/graphing calculators
   4) Any other devices capable of storing/transmitting/receiving information
8. Students may be asked to turn out pockets, remove jackets, change position, or provide other means of assurance to demonstrate compliance with this policy. One’s body should be void of writing in reference to exam content. All items are subject to inspection.
9. Proctors may confiscate restricted items until the exam is completed. Possession of restricted items will be considered a lack of proper decorum and be subject to penalty. Serious breaches (e.g. cheat sheet) will result in dismissal from the examination.
10. If the instructor decides to address a student inquiry related to interpretation or context of exam they shall address the answer to the entire class. Questions may only be addressed before the first student completes the examination.

11. Students witnessing suspected cheating should notify the proctor discreetly and immediately.

12. Students will not be excused from the exam room without good reason. Those granted permission, should turn over all papers or enable the “Hide Exam” function so it cannot be viewed by a classmate. No more than one student will be allowed to leave the examination room at one time. During absence, students should not use any communication device or consult any reference.

13. Students must turn in all requested materials (e.g. exam, answer sheet, scratch paper, equation sheets) prior to exiting the examination room.

14. When completing the exam, students must submit and have receipt of their uploaded exam confirmed by the individual delivering the exam before leaving the exam room. Students who experience difficulty submitting their exam will be referred for technical assistance.

15. After submitting the exam, a student must leave the examination room and any adjacent area to prevent disturbing those students still taking the examination.

Technology Issues

1. If a student is unable to download the examination file or there is an iPad failure after downloading examination file but prior to the examination start time, the student should contact the course instructor PRIOR to the examination start time.

2. If an iPad freezes or fails during an examination:
   a. Bring device to the proctor at the front of the room.
   b. Restart the device (instructor will note the amount of time needed for restart).
   c. If unable to restart and resume the examination, leave the device at the front of the room and obtain a paper copy of the examination.

Academic Dishonesty

1. Students are expected to adhere to the Student Academic and Conduct Standards Policy (NDSU CHP Policy Manual Section 3.01).

2. Students should avoid behaviors that give the appearance of cheating (e.g. talking during exams, wandering eyes) and should take measures to protect their own work.

3. Violations of the Conduct Standards will be reported to the Senior Associate Dean and reported via the Professional Misconduct tracking form

4. Instructors may move students during the examination to avoid or suspend possible instances of cheating. If a widespread breach of the Conduct Standards is suspected, particularly in the case of emergency matters/evacuation, the instructor may cancel the remainder of the examination and reschedule a new exam at a later date (NDSU Policy Manual Section 335).

Interruptions During an Examination

1. If a fire alarm or other emergency condition occurs during an examination, either paper or electronic-based, students will immediately cease taking the examination and evacuate the building. All materials should be turned over and left on the desk.

2. Students may be asked to evacuate to a specific location. Students are to remain in full view of the individual administering the exam where they can hear the all clear announcement.

3. Students may not discuss the examination with any other person or access any materials including electronic devices.

4. After the fire alarm or other cause of interruption has ended, students will return to their assigned seat immediately and if possible, resume the examination when announced by the proctor to do so. Students returning later than 10 minutes following the “all clear” signal may be excluded from continuing the examination.

5. The examination will add additional time equal to that lost during the interruption, if time permits. Students returning late will not receive additional time above that given to all students.

6. In the event of a prolonged interruption of 15 min without a foreseeable resolution, the examination should be cancelled and rescheduled for a different date.

Penalties

1. Instructors are encouraged to outline penalties for examination infractions within their course syllabus. An example of infractions and associated penalties are listed in **Table 1**.
2. All infractions, regardless of penalties should be reported by the instructor through the Professional Misconduct Tracking Form within seven days of occurrence.

<table>
<thead>
<tr>
<th>Table 1.</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than 15 minutes late to a scheduled examination</td>
</tr>
<tr>
<td>Faculty has some concern regarding possibility of academic misconduct (example: student has a watch, cell phone, etc. available during the examination)</td>
</tr>
<tr>
<td>Student has an unexcused absence during the examination</td>
</tr>
<tr>
<td>There is a high likelihood or evidence of academic dishonesty (2-way communication, written resource, cheat sheet, evidence of cheating from ExamSoft data analysis)</td>
</tr>
</tbody>
</table>

HEALTH INSURANCE POLICY 3.07

Upon admission to the professional program students in the College of Health Professions are required to have adequate health insurance coverage in case they require health care or hospitalization while they are enrolled.

The College does not provide coverage for students while they are participating in clinical experiences, and students are not covered by the agency's workers' compensation. An insurance company and policy number will be provided by the student to the College administration before any experience in the clinical areas. Insurance may be obtained through the North Dakota University System (https://ndus.edu/students/ship) or a company selected by the applicant.

HEALTH VACCINES/EXPOSURE TO BIOHAZARD

During portions of the training program for Pharm.D. students, a student may be exposed to blood and body fluids of patients. Along with this exposure is the risk of Hepatitis B infection. Documentation of the completed Hepatitis B vaccination series or a signed waiver is required prior to participation in experiential education. The full vaccination against Hepatitis B requires a six-month series of three shots. You can obtain the Hepatitis B vaccine from your healthcare provider, or from the NDSU Student Wellness Center. If you choose to receive your immunizations at the Student Wellness Center, appointments are required.

Testing is required for TB (tuberculosis) annually for students in the Pharm.D. program. Pharm.D. students are required to complete a two-step tuberculosis screening during their first professional year, a one-step tuberculosis screening during their second professional year and a final two-step tuberculosis screening at the end of their third professional year. Pharm.D. students may also be required to complete additional tuberculosis screenings and/or immunizations as required by the practice sites.

All students are required to provide a copy of their immunization records and relevant titers before beginning coursework in the Pharm.D. program. Request copies of your childhood/adolescent immunizations and any immunizations you have received as an adult, and titers from your healthcare provider(s). These records must be from a healthcare provider. Examples of this would be from Student Health, clinic records, myChart documentation, or State Certificate of Immunization record. We cannot accept records from high schools or wallet type cards that have been kept by family members.

Students may contact the Experiential Office at (701) 231-5576 after June 5 with any questions regarding these records. Please note: We cannot discuss your medical records with any other individuals, including parents or family members.
• Students must retain and maintain the original copies of these records throughout their progression in the pharmacy program. You should begin to collect this information as soon as possible in order to ensure that you meet program requirements.

• When you have received all of these records from your healthcare provider(s), submit a photocopy of these records you received as your documentation (see specific requirements listed below) for the Pharm.D. program to Jamie Berg by July 13. Documentation must clearly identify the health care facility from which the records were obtained.

• Experiential Education sites require students to provide proof of immunity prior to completing Introductory and Advanced Pharmacy Practice Experiences.

• Experiential Education sites may have additional immunization requirements beyond those listed here. Students are required to meet all practice site requirements prior to practice experiences.

<table>
<thead>
<tr>
<th>Immunizations</th>
<th>Required Documentation</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>REQUIRED IMMUNITY</strong></td>
<td></td>
</tr>
<tr>
<td>Hepatitis B (HBV)</td>
<td>□ A 3-dose series is required. If you have not received this vaccination, you must complete the first dose of the 6-month series prior to July 13 and the second dose by the start of Fall semester. The third dose must be completed by December 15. <strong>AND</strong> □ A positive antibody test (titer)</td>
</tr>
<tr>
<td>Measles, Mumps, Rubella (MMR)</td>
<td>□ Two (2) doses of measles/mumps/rubella (MMR) vaccine received if born after 1957. <strong>AND</strong> □ A positive antibody test (titer)</td>
</tr>
</tbody>
</table>
| Tetanus, Diphtheria, Pertussis (Tdap) | □ One dose of tetanus, diphtheria, pertussis (Tdap) vaccine given at age 11 or older, followed by Td (Tetanus only) every 10 years.  
  *Note: Tdap is not the same as the other vaccines containing some or even all of the vaccine components (D-T-A-P) such as DTap, Td, or DT* |
| Varicella (Chickenpox) (VAR)          | □ Two (2) doses of Varivax (chickenpox vaccine) **AND** □ A positive antibody test (titer) |

In addition to the above required immunizations, students will be required to complete and provide documentation of TB (tuberculosis) screening before beginning any Experiential Education rotation. This will be announced during spring semester each year. You do not need to provide TB test documentation before entering the Pharmacy Program. Annual influenza immunization is strongly recommended for all Pharm.D. students during flu season and is required for P4 students.

**MINIMUM GRADE REQUIREMENT FOR PHARMACY COURSEWORK**  
**POLICY 3.21**

A grade of C or better is required in all required courses in the pre-pharmacy and professional curricula (courses listed by name or number).

The College does not permit any course required with name and number to be taken pass/fail, with the exception of labs offered only this way. Course work utilized for NDUS general education credits must be taken for a letter grade.

**PRE-PHARMACY & PROFESSIONAL PHARMACY MAJORS**

The faculty reserve the right to change rules and regulations including those relating to admission, instruction and graduation. Such changes may apply to prospective students, as well as students already enrolled. Changes will be shared with students in a timely manner. However, it is the
responsibility of the student to periodically contact their adviser or the Dean’s Office to obtain current policies.

PREREQUISITES FOR PROFESSIONAL COURSES POLICY 3.23

Prerequisites for all courses taught in the professional curriculum are to be established by the faculty and any changes made in prerequisites for professional program must be approved by the faculty.

All prerequisite course work in the professional program, whether offered from within or without the College of Health Professions, must be completed with a minimum grade of C in order for the student to progress.

It is the responsibility of individual course instructors to check and enforce their own course prerequisites.

PROFESSIONAL DRESS POLICY 3.09

Professionalism is a core value of our program. Students are expected to dress appropriately during the laboratory and experiential components of the professional program in order to promote and maintain a positive professional image. In addition, appropriate professional clothing is to be worn when representing the College at professional out-reach activities. Violations of the College or departmental dress code may result in sanctions per College Policy 3.01: Student Conduct Policy. Students should refer to their respective department or affiliated clinical/experiential dress code policy for further details.

PROFESSIONAL ELECTIVES POLICY 3.26

A minimum of six professional elective course credits, that permit exploration of and/or advance study in areas of professional interest, are required for graduation with the entry-level Pharm.D. degree. Professional elective courses are subject to the following rules. (Note: Students who were admitted before Fall Semester 2017 are required to complete four credits.)

1. Professional elective courses must be taken while enrolled in the entry-level Pharm.D. program (e.g. beginning Fall Semester P1 year). These courses must be completed prior to the beginning of the P4 year.
2. Professional elective courses must be taken for a letter grade, and a grade of C or better is required to meet the requirements.
3. The pre-approved professional elective courses are listed below.
4. A student may take a professional elective course that is not included in the pre-approved list only after (1) consultation with his/her academic advisor, AND (2) approval of the course by the Pharm.D. Curriculum Committee.

The necessary steps to take a course that is not included in the pre-approved professional elective course list is as follows:

1. The student must meet with his/her advisor and demonstrate that the course “permits exploration of and/or advance study in areas of professional interest”. This request must be made to the advisor by December 1st for upcoming spring semester courses, and April 1st for upcoming summer and fall semester courses.
2. If the advisor supports the student’s elective course choice, then the advisor shall petition to the chair of the Curriculum Committee to approve the course.
3. Curriculum Committee will obtain a syllabus for review and contact the instructor to address other criteria as needed.
4. Upon receipt of all required information, the Curriculum Committee shall review the information, determine the status of the request, and inform the student, and advisor, of the outcome of the petition.
5. If the Curriculum Committee approves the course, the course shall be included in future revisions of the pre-approved professional elective course list.
PRE-APPROVED PROFESSIONAL ELECTIVE COURSES (8/2019)

ADHM 411   Food and World Cultures
ANTH 332   Medical Anthropology
BIOL/PLSC/315   Genetics
BIOL/PLSC/315L   Genetics Laboratory
BIOL 364   General Ecology
BUS 318   Taxation in Management Decisions
CHEM 425   Inorganic Chemistry I
CHP 300 and higher
CJ 407   Deviant Behavior
* Creighton U. PHA 451   Advanced Critical Care
EDUC 321   Introduction to Teaching
ENGR 312   Impact of Technology on Society
FIN 320   Principles of Finance
HD&E 320   Professional Issues
HDFS 320   Prenatal, Infant and Toddler Development
HDFS 353   Children, Families and Public Policy
HDFS 357   Personal and Family Finance
HDFS 435   Topics in Socioemotional Development
HDFS 468   Families and Work
* Mercer U. PHA 505   Community Pharmacy Ownership
MGMT 320   Foundations of Management
MGMT 330   Foundations of Organizational Behavior
MGMT 450   Human Resource Management
MGMT 470   Entrepreneurship/Small Busn MGT
MICR 350   General Microbiology
MICR 350L   General Microbiology Lab
MICR 445   Animal Cell Culture Techniques
MICR 460L   Pathogenic Microbiology Laboratory
MICR 463   Clinical Parasitology
MICR 471   Immunology and Serology Laboratory
MICR 474   Epidemiology
MICR 475   Animal Virology
MICR 480   Bacterial Physiology
MICR 482   Bacterial Genetics and Phage
MRKT 320   Foundations of Marketing
MRKT 362   Foundations of Retailing
PH 300 and higher   (formerly MPH)
PHRM 300 and higher
PSCI 300 and higher
PSYC 322   Thinking & Making Decisions
PSYC 340   Psychology in Sport
PSYC 380   Clinical Psychology
PSYC 382   Self-Injury: Recognition & Treatment
PSYC 460   Sensation & Perception
SAFE 401   Food Safety Information & Flow of Food
SAFE 402   Foodborne Hazards
SAFE 403   Food Safety Risk Assessment
SAFE 404   Epidemiology of Foodborne Illness
SOC 410   Social Inequality
SOC 412   Sociology of Gender
SOC 417   Sociology of the Family
SOC 426/626   Sociology of Medicine
SOC 441   Death and Dying
* U. of Florida PHA 6357   Herbal and Dietary Supplements course for Pharmacy Students
* U. of Florida PHA 6935   Veterinary Pharmacy Course for Pharmacy Students
VETS 456   Veterinary Pharmacology and Pharmacy Practice
VETS 491   Seminar: Veterinary Pharmacology/Pharmacy Practice

* Contact Information regarding courses offered outside the College:

APhA Institute on Substance Abuse Disorder: PHRD 624. Removed from list – APhA no longer offers university credit for the institute.
Creighton University School of Pharmacy: PHA 451-On-line-Advanced Critical Care Elec., 2 cr. For information regarding registration, please direct all questions to Jeanne Riha, Support Secretary for Registration Services, 402-280-3296, jeanneriha@creighton.edu. https://spahp.creighton.edu/future-students/visiting-students

Mercer University: PHA 505 Online – Community Pharmacy Ownership, 2 cr. For more information regarding the course, open their web site - http://pharmacy.mercer.edu/admissions/pha505.cfm. To begin the registration process, select the link located next to “Non-Mercer Pharmacy Students.”

University of Florida College of Pharmacy:
PHA 6357 – On-line: Herbal and Dietary Supplements course for Pharmacy Students, 3 cr. https://pharmacyelectives.pharmacy.ufl.edu/courses/herbal-dietary-supplements
PHA 6935 - On-line: Veterinary Pharmacy Course for Pharmacy Students, 2 cr. https://pharmacyelectives.pharmacy.ufl.edu/courses/veterinary-pharmacy

PROFESSIONAL LIABILITY INSURANCE
Pharm.D. students are required to have professional liability insurance prior to participating in any experiential activity during the professional program. NDSU provides professional liability insurance coverage for all students in experiential rotations in amounts up to $1,000,000 per occurrence and $5,000,000 aggregate (North Dakota Risk Management Fund: NDCC Ch.32-12.2). Students who work may wish to purchase additional coverage because this insurance only covers educational endeavors.

REPETITION OF PRE-PHARMACY CORE COURSES POLICY 2.21.1
The total number of pre-pharmacy core courses which may be repeated shall be limited to three. The grade received during the student’s final attempt for any core pre-pharmacy course will be used in evaluation for admission. A withdrawal is not considered an attempt. A core course is one that is included in the GPA for admission purposes.

REPETITION OF PROFESSIONAL PHARMACY COURSES POLICY 3.24
The total number of professional pharmacy course repeats due to failure (i.e., grade less than a C) is limited to three (3).

Withdrawal (for reasons other than extenuating conditions*) from a professional pharmacy course with a grade less than a C is considered the same as a failure.

A fourth occurrence of receiving a grade less than a C (or withdrawal due to a grade less than a C) in a professional pharmacy course will result in termination from the pharmacy program.

*All extenuating circumstances must be approved by the Senior Associate Dean before the withdrawal takes place.

SCHOLARSHIPS AND AWARDS
The College of Health Professions has a limited number of scholarships and awards available for assistance to students. Applications for scholarships and awards are available beginning with the second Monday in April and ending on the Friday after spring graduation: (www.ndsu.edu/healthprofessions).

NOTE: Specific information related to criteria for selection of scholarship recipients is available in the Office of Development in Sudro Hall 120.
STATUS DOCUMENTATION POLICY 3.06

Upon acceptance to a professional program housed in the College of Health Professions, students may be required to submit documentation of health status. Programs will define their own documentation requirements and include those requirements in their program handbook(s). Examples of documentation may include, but are not limited to:

- Record of immunizations or other immunity for influenza, measles, mumps, rubella, varicella, poliomyelitis, tetanus, diphtheria, hepatitis B
- Results of tuberculin testing
- Physical examination by the student’s health care provider (MD, DO, NP) within one year
- Allergies
- Health problems that may be of significance in clinical practice
- Permission to release information to clinical agencies
- Affirmation of veracity of the record

Health status documentation to be completed by the student and his/her health care provider will be provided to the student. Documentation must be submitted to the student’s professional program designee as indicated in student’s program handbook.

If required by the professional program, tuberculin testing must be done annually and the report submitted to the appropriate department.

The expense of the physical examination and any needed immunizations is the student’s responsibility.

STUDENT ACADEMIC AND CONDUCT STANDARDS POLICY 3.01
(revised October 31, 2018)

Introduction
The mission of the NDSU College of Health Professions is to educate students and advance research and professional service in pharmacy, nursing, allied sciences, and public health. The College has established professionalism and ethics as two of its core values.

Pharmacists, nurses, allied health care professionals, public health professionals, and pharmaceutical scientists must live up to the high ideals of their profession. Their lives must be guided by the principles of honesty and integrity, in order to ensure that the public can regard their words and actions as unquestionably trustworthy.

To develop an understanding of and respect for these principles of honesty and integrity as applied to the academic work of pharmacy, nursing, allied science, and public health students, the College of Health Professions has developed this student conduct policy. This policy is applicable to anyone enrolled as a student in the College, including those in the pre-professional, professional, and graduate programs. This policy also applies to any student taking a course for credit in the College. Acceptance of this policy is required as a condition of admission to the College.

Academic Standards
The academic standards of the College of Health Professions differ from those of the University. Any student who fails to meet or exceed the University standards may be placed on University probation or suspension (see the current NDSU Bulletin for university information on academic deficiencies).

**Semester Grade Point Average (All Students):** To be in good academic standing within the College, all undergraduate and professional students shall maintain a semester grade point average of 2.00 or above for each semester enrolled in the College of Health Professions. All graduate students are expected to maintain a 3.0 grade point average as well as any other academic policies outlined by the graduate school.

Any student who fails to attain a semester GPA of 2.0 or above may be placed on College probation. Students who have been placed on academic probation for two (2) consecutive or three (3) non-consecutive semesters shall be suspended from enrollment in the College. After two suspensions,
students will be terminated from the College. (Termination from the College does not prohibit the student from registering elsewhere in the University provided the academic standards of the alternate college of registration have been met or exceeded.)

A student who is suspended and desires readmission into the College must file a request for re-admittance with the Senior Associate Dean at least 60 days prior to the beginning of the semester in which readmission is sought. In addition, professional students must seek readmission to the professional programs in Pharmacy, Nursing, Allied Sciences, and Public Health through the Admissions Committee of their respective program.

**Minimum Grade Requirement (Professional Students):** To be in good academic standing within the College, all students enrolled in the professional programs of the College must complete all required courses within the College with a grade of "C" or above. Students are encouraged to refer to program-specific policies related to minimum grade requirements which can be found in the College Policy Manual at [www.ndsu.edu/healthprofessions/college_information/policy_manual/](http://www.ndsu.edu/healthprofessions/college_information/policy_manual/). Graduate students are expected to uphold policies and procedures consistent with the graduate school and to maintain a 3.0 grade point average.

**Students Enrolled in College Affiliated Educational Training Programs (Professional Students):** To be in good academic standing within the College, all students enrolled in College affiliated internships, clinical, or experiential training programs are also required to uphold the academic standards of that affiliate and will be subject to the terms of probation, suspension, and termination of the affiliated program. Students failing to meet affiliated program academic standards may also lead to termination from the College.

**Conduct Standards**

High standards of professional conduct are expected from all students, both to facilitate the learning of all students and to promote professional values. Individuals are expected to represent the College, professional program, or profession in a positive, professional manner. Students conducting clinical experiences, rotations, and/or internships must also uphold the specific policies of their clinical site.

All students are held responsible for exhibiting the following professional attributes: honesty, integrity, accountability, confidentiality, and professional demeanor. Academic dishonesty and professional misconduct are unacceptable. If there is doubt about whether or not academic or professional conduct is appropriate, individuals should query the Dean's Office.

Examples of unprofessional conduct include, but are not limited to, the following:

**Academic Misconduct:**

1. **Cheating,** includes but is not limited to, the following:
   a. The receipt, possession, or use of any material or assistance not authorized by the instructor in the preparation of papers, reports, examinations, or any class assignments to be submitted for credit as part of a course or to be submitted to fulfill College requirements.
   b. Arranging to have others take examinations or complete assignments (i.e., papers, reports, laboratory data, or products) for oneself, unauthorized collaborating with another student on individual assignments, or doing academic work for another student.
   c. Stealing or otherwise improperly obtaining, unauthorized copies of an examination or assignment before or after its administration, and/or passing it onto other students.
   d. Copying, in part or in whole, exams or assignments that will be kept by the instructor and are handed out in class only for review purposes.
   e. Knowingly submitting a paper, report, presentation, examination, or any class assignment that has been altered or corrected, in part or in whole, for reevaluation or re-grading, without the instructor's permission.
   f. Misrepresenting your attendance or the attendance of others in a course or practical experience where credit is given and/or a mandatory attendance policy is in effect.
   g. Plagiarism: Submitting work that is, in part or in whole, not entirely the student's own, without attributing such portions to their correct sources. Unauthorized collaboration with another student and representing it as one's own individual work is also considered plagiarism. Ignorance is NOT an excuse.
   h. Fabrication: falsifying data in scientific/clinical research, papers, and reports.
   i. Aiding or abetting dishonesty: Knowingly giving assistance not authorized by the instructor to another in the preparation of papers, reports, presentations, examinations, or laboratory data and products.
2. Utilization of a false/misleading illness or family emergency to gain extension and/or exemption on assignments and tests.
3. Violation of any IRB and/or University research processes.

**Professional Misconduct**
1. Violation of conduct described in course policies or articulated by the instructor in writing.
2. Violation of any code of ethics of the profession in which the student is enrolled.
3. Contributing to, or engaging in, any activity which disrupts or obstructs the teaching, research, or outreach programs of the College or University, on campus or at affiliated training sites.
4. Entering the classroom or clinical experience habitually late or leaving early, arriving late to a professional activity, without prior permission from the instructor. The instructor also has the obligation to notify the class, if possible in advance, of any changes in class times, possible late arrival, and/or cancelled classes.
5. Approaching faculty, staff, or students in less than a professional manner and treating faculty, staff, peers, and patients in a disrespectful and inconsiderate way (i.e., addressing a faculty member without the appropriate title during professional activities). Respect and consideration are also expected when addressing a faculty member, staff, student, or patient that chooses to be called by their first name.
6. Failure to deal with professional, staff, and peer members of the health care team in a considerate manner and with a spirit of cooperation.
7. Unprofessional dress (as outlined in the professional program, class and/or clinical agency policies) during classes, clinical experiences, or when representing the College of Health Professions.
8. Bringing family members, guests, and pets to the classroom or any professional academic activities without prior consent of the instructor.
9. Falsifying applications, forms, documents, reports, or records of any kind or providing false information to the University personnel prior to admission to the College, or while an active member of the College’s academic programs.
10. Unauthorized accessing or revealing of confidential information about faculty, staff, or students of the College and University.
11. Violation of patient respect and confidentiality in any practice/learning setting.
12. Theft, damaging, defacing, or unauthorized use of any property of the College, University, or training sites.
13. Computer Usage that violates NDSU/NDUS and/or clinical sites acceptable use policies.
14. Sexual harassment as defined by NDSU, NDUS, and/or clinical sites.
15. Harassment, threats of violence, intent to do harm (NDSU, NDUS)
16. Endangering patients, faculty, staff, and/or fellow students or damaging their property.
17. Intoxication, abuse, possession, use, and/or illegal sale of alcohol, drugs, chemicals, firearms, explosives, or weapons within the University campus, in any practice/learning setting, or when representing the College.
18. Any violation and/or conviction of any federal, state, or municipal law as well as a University rule or rule at a professional experience site.
19. DUI & DWI (driving under the influence or driving while intoxicated) is considered by the College as improper behavior, and any individual violating this law is required to undergo an alcohol/drug evaluation.

**Reporting Process**

**Academic Misconduct**
1. Students are required to report any academic misconduct to the Senior Associate Dean within 7 days of the occurrence. Failure of the student to report violations within the required time could result in immediate expulsion from the College and/or its programs. Graduate students must also report to the Department Chair of the graduate program.
2. The course instructor who suspects that academic misconduct has occurred in their course or other instructional context has an initial responsibility to: a) inform the student(s) involved of his/her suspicion and the suspicion’s grounds; b) allow a fair opportunity for the student to respond; and c) make a fair and reasonable judgment as to whether any academic misconduct occurred.
3. The course instructor will report academic misconduct violations to their Department Chair within 7 days of the occurrence or discovery of the misconduct.
4. The Department Chair will report the academic misconduct to the Senior Associate Dean.
**Professional Misconduct**
1. Students are required to report any professional misconduct to the Associate Dean for Student Affairs and Faculty Development within 7 days of the occurrence. Failure of the student to report violations within the required time could result in immediate expulsion from the College and/or its programs.
2. Faculty members are required to report unprofessional conduct within the classroom setting. Similarly, other College personnel are required to report professional misconduct issues as they arise and which directly affect their daily professional activities.
3. The faculty member/College personnel will report professional misconduct violations to their Department Chair within 7 days of the occurrence or discovery of the misconduct.
4. The Department Chair will report the professional misconduct to the Associate Dean for Student Affairs and Faculty Development within 7 days of the discovery of the misconduct.
5. If a faculty member is aware that a student has violated the Conduct Policy outside of the classroom, he/she should remind the student of the policy and direct the student to self-report any professional misconduct violations to the Associate Dean for Student Affairs and Faculty Development within 7 days of the occurrence.

**Disciplinary Sanctions**

**Academic Misconduct**
1. The course instructor is responsible for determining the sanction for academic misconduct in the course. Sanctions may include, but are not limited to, failure for a particular assignment, test, or course.
2. The course instructor will inform the student of the sanction in writing by completing the Student Academic Misconduct Tracking Form as per University Policy 335 and submitting it to the student and the Department Chair.
3. The Department Chair will submit a copy of the form to the Senior Associate Dean.
4. The Senior Associate Dean will submit the form to the Registrar and Provost/VPAA in accordance with University Policy 335. In the case of graduate student academic misconduct, the Dean of the College of Graduate & Interdisciplinary Studies must also receive a copy of the completed Student Academic Misconduct Tracking form.
5. A copy of the Student Academic Misconduct Tracking Form will be placed in the student’s academic file.

**Professional Misconduct**
1. Professional misconduct issues may be more likely to happen outside of the classroom and have broader implications for the well-being of students, faculty, and staff in the College. Hence, the Associate Dean for Student Affairs and Faculty Development has the initial and primary responsibility for administering and enforcing professional misconduct issues.
2. The Associate Dean for Student Affairs and Faculty Development will work collaboratively with the Department Chair (and where appropriate, individual instructors) to resolve professional misconduct issues.

**Department and College Related Sanctions**
Additional academic and/or professional disciplinary sanctions for the department/program may be assigned by the Department Chair depending upon the circumstances and nature of the misconduct. The Department Administrator will notify the student in writing of the sanction and rights to due process and forward a copy to the Senior Associate Dean &/or Associate Dean for Student Affairs and Faculty Development.

The Senior Associate Dean may impose additional disciplinary sanctions for the College and will notify the student in writing and the Dean of the College of Graduate and Interdisciplinary Studies (if a graduate student involved). Disciplinary action for academic and professional misconduct will depend based upon the seriousness of the misconduct. In general, sanctions may include, but are not limited to, any of the following:

1. Probation.
2. Supervised probation.
3. Suspension from the College.
4. Termination from the College. (Termination from the College of Health Professions does not prohibit the student from registering elsewhere in the University provided the academic standards of the alternate college of registration have been met or exceeded.)
In cases of particularly egregious or multiple instances of academic/professional misconduct, the Dean of the College may also recommend expulsion from the university.

**Student’s Right to Appeal**

Students sanctioned for violations of the College Student Academic and Conduct Standards Policy have the right to appeal. Student appeals must follow the appeal procedure outlined below. Graduate student appeals of sanctions involving academic misconduct must be filed in accordance with the Graduate Student Appeals policy described in the NDSU Graduate Bulletin.

**Pre-professional/Professional Student Appeals Procedure**

1. If the student chooses to appeal a course instructor’s sanction, it must be pursued in the following sequence: course instructor, Department Chair, Associate Dean for Student Affairs and Faculty Development or Senior Associate Dean, and Dean.

2. Department and College related sanctions for professional misconduct may be appealed to the Associate Dean for Student Affairs and Faculty Development and the College Student Affairs Committee. Department and College related sanctions for academic misconduct may be appealed to the Senior Associate Dean and the College Academic Affairs Committee. Final appeals may be made to the Dean of the College of Health Professions.

3. In cases of sanctions involving suspension or termination from the College of Health Professions, the appeal will follow the process outlined in University Policy 335: Code of Academic Responsibility and Conduct.

4. An appeal for any sanction must be made in writing within 15 business days of the sanction letter. The date of the letter shall be the date the letter is postmarked. If hand-delivered, a notation of that date will be made in the student’s file.

5. Appeal letters must specify in detail one or more of the following bases of appeal:
   a. the sanction was too severe for the offense;
   b. the decision for non-action/action/sanction was made in an arbitrary or capricious manner;
   c. the finding of the Student Academic and Conduct Standards Policy having been violated was not substantiated by evidence, and/or
   d. the student’s/student organization’s rights were violated (specify those rights believed to have been violated).

**Appeal Review Process (Pre-professional and Professional Students)**

1. Appeals made to the Senior Associate Dean or Associate Dean for Student Affairs and Faculty Development will be reviewed by the Academic Affairs Committee or Student Affairs Committee of the College depending upon the conduct violation in question.

2. The Academic Affairs/Student Affairs Committee will review the written letter of appeal from the student/organization and the materials from the original adjudication process. After reviewing these materials, the committee may decide to do one of the following:
   a. issue a decision based solely on the written materials;
   b. issue a decision based on a review of written materials and discussion with the involved principals;
   c. recall one or more witnesses;
   d. refer the decision to the full faculty for action;
   e. return the case for reconsideration of the decision and/or sanctions.

3. The Academic Affairs/Student Affairs Committee may uphold or lessen the original decision/sanction but not increase the sanctions/actions imposed by other persons or bodies.

4. The decision of the committee will generally be issued within 15 working days of the receipt of the appeal letter, but may take longer during University recesses, or in the event of complex cases.

5. The Registrar will be advised of the results of the appeal.

**Unresolved Appeals**

After the College appeals process has been completed, if the student/organization is not satisfied with the appeal decision, the student/organization has the right to appeal the decision to the Provost. The Provost will make the final decision on any appeals.

**Incomplete Disciplinary Process**

Students with pending disciplinary or legal actions, with sanctions for which an appeal has been submitted but not resolved, or whose sanctions have not been successfully fulfilled, will not be allowed to graduate from NDSU with a degree, major, or program of study offered by the College of Health Professions. In such cases, the College reserves the right to place a hold on a student’s graduation until the case has been successfully resolved and the sanctions have been successfully fulfilled.
Annual Pledge, FERPA Notification, and Signature
I have read and understand the above policy. I agree to accept and abide by this Student Academic and Conduct Standards Policy of the College of Health Professions. I understand that possible violations of this policy and sanctions imposed, as well as information used to substantiate violations (including, but not limited to, criminal background checks and drug screens), may be shared with College affiliated educational training programs, clinical sites at which I may complete program-specific experiential requirements, licensing and/or certification boards relevant to my program of study, clinical sites at which I work for non-academic reasons (i.e., for pay or to volunteer), and other faculty, staff or administrators within the College of Health Professions and North Dakota State University who have a legitimate interest in my education. I understand that I have the right to revoke the College of Health Professions’ ability to share this information at any time. Should I revoke the ability of the College of Health Professions to share relevant information with the aforementioned parties, I also understand that I am immediately ineligible to complete a degree offered within the College of Health Professions, and I voluntarily (and immediately) withdraw from my major or program of study within the College. I understand that withdrawing from a major or program of study within the College of Health Professions does not prevent me from pursuing another major at North Dakota State University. I am also aware of and assume responsibility for following other College and Department policies as stated in my major or program of study’s student handbook.

STUDENT COMPLAINT POLICY 3.28
The Accreditation Council for Pharmacy Education (ACPE), at the behest of the U.S. Secretary of Education, requires all accredited pharmacy programs to establish, implement and assess a formal complaint policy for students. More specifically, all accredited colleges or schools of pharmacy must establish a comprehensive policy with a simple set of procedures whereby all students enrolled in the College (and the pharmacy program in particular) can submit and resolve a complaint about the educational process. While such procedures do not always produce an outcome that meets the student’s preferences, they do ensure that students have access to an equitable and efficient means to remediate their complaints. The complete set of ACPE standards regarding student complaint policies can be found on pages 38-39 (Standard 20) of the following website: http://www.acpe-accredit.org/pdf/FinalS2007Guidelines2.0.pdf.

The NDSU College of Health Professions takes student complaints very seriously. Our goal is to ensure that students have access to transparent, due process in a manner that leads to an appropriate resolution of the complaint. To that end, a copy of the NDSU College of Health Professions policy relating to this issue is available on its website at www.ndsu.edu/healthprofessions. Students who have difficulty accessing this webpage may also obtain a copy of the complaint policy in the Dean’s Office (Sudro Hall 123). A discussion of this policy shall take place annually during the orientation process for first professional year students.

Each student complaint will be appropriately documented and investigated. A chronological record of each complaint, including the nature of the complaint, written records of the complaint procedure and the final outcomes of the resolution process shall be maintained in the Office of the Dean of the School of Pharmacy, and shall be available for review by ACPE or its representatives upon written request or in the process of an on-site evaluation visit.

Student complaints generally fall within two major categories: complaints about unfair grading and all other, non-grade-related complaints. Student complaints about grades are generally handled at the level of the University, since grades are usually administered through the NDSU Office of Registration and Records. Other student complaints remain under the purview of the individual colleges within NDSU.
Student Complaints Regarding Grades

University Grade Appeal Policy 337
NDSU has an established policy regarding complaints about grading, otherwise known as “grade appeals”. The full grade appeal policy, which includes hearing procedures, is available at [www.ndsu.edu/fileadmin/policy/337.pdf](http://www.ndsu.edu/fileadmin/policy/337.pdf). While students actively considering a grade appeal are referred to the aforementioned website for the specific details of the policy, a summary of the policy is outlined below.

With the exception of incomplete grades, a course grade is considered final unless an appropriate appeal is filed by the student. Grade changes are also considered only for those students who have not yet earned a degree for which the course in question was applied.

For a student who has reason to believe that they have been issued an incorrect or inappropriate grade, he/she must initiate a request for a change of a grade with the instructor within fifteen (15) instructional days of the first day of the semester immediately following the semester in which the grade was awarded. For Spring Semester courses, the request may be made within fifteen (15) instructional days of the start of Fall Semester.

A grade appeal is formally initiated when the student presents the Grade Appeal Form to the instructor. If there is an unsatisfactory decision, the student must consult the Department Head, and the Dean or a designated college committee, proceeding from one level to the next only after an unsatisfactory decision of the conflict at that level. In the event that the instructor is also the Department Head or Dean, he or she need only be consulted in the capacity of instructor. In the event of an unsatisfactory decision within the college, the student may submit a formal written appeal to the Grade Appeals Board Chair. Such an appeal shall be made within fifteen (15) instructional days after conclusion of the college proceedings as stated above.

Non-Grade Student Complaints
Pre-professional and professional pharmacy students who have a non-grade-related complaint can seek resolution of that complaint through the following procedures. It is important to note that these procedures represent the sole avenue for student complaints regarding non-grade-related issues, including (but not limited to) ACPE standards, policies and procedures. Additionally, because the pharmacy program spans multiple departments, the non-grade complaints are handled through the Dean’s Office, rather than by the departments themselves.

1. The student(s) or, in cases where student anonymity is required, their advocate (also known as the "plaintiff(s)") will file a formal written complaint (delivered through the postal service or NDSU email) to the Dean's Office in the NDSU College of Health Professions.
2. The written complaint must include a description of the policy, procedure or ACPE standard in question. It must also summarize the argument of the plaintiff (including the grounds for the appeal or complaint) and provide a reasonable amount of evidence supporting the claim.
3. Upon receipt of the written complaint, the complaint will be assigned to either the Senior Associate Dean (as the Chair of the College Academic Affairs Committee) if the complaint is primarily academic in nature, or the Associate Dean for Student Affairs & Faculty Development (as the Chair of the College Student Affairs Committee) if the complaint is primarily non-academic. The plaintiff(s) will receive email notification (via NDSU email) within forty-eight hours of the receipt of the complaint concerning the identity of the Associate Dean handling the complaint.
4. The Senior Associate Dean (or, if a non-academic issue, Associate Dean for Student Affairs & Faculty Development) shall convene a meeting of College Academic (or, if a non-academic issue, Student) Affairs Committee to review the complaint. Because the procedures for both Associate Deans and Committees are similar in procedure, they will henceforth be referred to generically as "Associate Dean" and "Committee", respectively. The Committee meeting shall occur within thirty days from the time that the Associate Dean receives the written complaint.
5. Once the Committee has met, the Associate Dean shall prepare and submit a formal, written reply to the student(s) based on the recommendation of Committee. The reply shall include an evaluation of the complaint, a description of any violations, and a proposal for any necessary corrective action. The reply will be sent through official NDSU delivery methods (i.e., the postal service, campus mail and/or the NDSU email system) within fifteen business days from the time that the Committee makes a decision.

6. Decisions of the Committee that demonstrate arbitrary and capricious treatment, or that are fundamentally inappropriate in the eyes of the plaintiff(s) may be appealed to the Dean of NDSU College of Health Professions. In such cases, the student(s) file an appeal using steps one through three outlined above, except the written complaint would be addressed directly to the Dean. The written complaint would also identify and provide evidence indicating that the Associate Dean and/or the Committee acted in an arbitrary, capricious or otherwise inappropriate manner.

7. If unsatisfactory resolution occurs after the appeal to the Dean, a final appeal may be made to the Provost. Once again, the student(s) must file an appeal using steps one through three outlined above, except the written complaint would be addressed directly to the Provost, rather than the Dean, and would provide evidence substantiating the claim of unfair treatment at prior procedural levels.

STUDENT TECHNICAL STANDARDS (PHARM.D) POLICY 3.29

The North Dakota State University College of Health Professions’ mission is to educate students and advance research and professional service in pharmacy, nursing, allied sciences, and public health. As a corollary to this mission, the Doctor of Pharmacy (Pharm.D.) program seeks to train students who have the ability, interest and work ethic necessary to be eligible for licensure, and embark upon a successful career as a health care professional. Thus, the Pharm.D. professional program requires students to undertake the full set of activities that are necessary to complete their program of study.

The goal of every licensed pharmacist is to provide safe and effective care to patients. In order to provide that care, individuals must have the physical, cognitive and social skills necessary to learn, practice and master each of the competencies of one’s profession. Failure to demonstrate these competencies not only endangers the patients under the pharmacist’s care, but also impacts the ability of other providers to provide safe and effective patient care.

Therefore, the following technical standards represent competencies necessary to complete the Pharm.D. professional program and provides additional guidance to the College Student Technical Standards Policy 3.11 for students. Students must be able, with or without reasonable accommodations, to consistently demonstrate these competencies. Students who fail to demonstrate these competencies are ineligible for admission or progression in the NDSU Doctor of Pharmacy (Pharm.D.) professional program. The technical standard competencies are organized into five general categories:

1. Perception/observation
2. Communication
3. Motor/tactile function
4. Intellectual, conceptual, integrative, and quantitative abilities
5. Behavioral and Social Attributes

1. Perception/Observation Competencies
   Students must be able to utilize their senses and mental abilities to perceive and observe information presented through:
   • Written material
   • Audiovisual material
   • Demonstration
   • Large-group lectures
   • Small group discussions and presentations
   • One-on-one interactions
• Laboratory experiences
• Patient encounters (at a distance or close at hand)
• Procedures

2. Communication Competencies
   Students must be able to communicate effectively and efficiently (in English) using nonverbal, verbal, and writing strategies with faculty members, other members of the healthcare team, patients, families, and other students, in order to:
   • Produce written and oral communication
   • Elicit information
   • Convey information
   • Clarify information
   • Create rapport
   • Work collaboratively
   • Develop therapeutic relationships
   • Demonstrate computer literacy

3. Motor/Tactile Function Competencies
   Students must have sufficient motor function, skills, and tactile ability to execute basic tasks in the training and provision of patient care. This includes coordination of both gross and fine muscular movements, equilibrium, and functional use of the senses of touch and vision in order to:
   • Attend and participate in classes, groups, and activities which are part of the curriculum.
   • Conduct basic laboratory procedures and tests.
   • Perform basic, non-sterile compounding.
   • Demonstrate aseptic technique.
   • Examine patients (including inspection, auscultation, palpation, percussion, and other diagnostic maneuvers).
   • Administer immunizations, perform cardiopulmonary resuscitation, perform palpitation, auscultation, and percussion.
   • Provide patient care appropriate to the circumstances.
   • Perform in a reasonably independent way in potentially high speed/high demand/emergency environments.

4. Intellectual, Conceptual, Integrative & Quantitative Competencies:
   Student must be able to demonstrate higher-level cognitive abilities, which include:
   • Memory
   • Rational thought
   • Visual-spatial comprehension
   • Conceptualization
   • Application
   • Measurement
   • Calculation
   • Analysis
   • Representation (oral, written, diagrammatic, three dimensional)
   • Organization
   • Synthesis
   • Clinical reasoning
   • Ethical reasoning

5. Behavioral and Social Competencies
   Students must consistently demonstrate attributes of professionalism, including:
   • Empathy, compassion, integrity, and respect for others.
   • Preparation, initiative, and accountability consistent with a commitment to excellence.
   • Commitment to legal and ethical principles pertaining to the provision of patient centered care.
   • Mindfulness of the environment, recognizing that one’s professionalism is constantly evaluated by others.
Reasonable Accommodations under the Americans with Disabilities Act (ADA)
The College strongly encourages any student who suspects that he or she may have a disability to contact the NDSU Office of Disability Services for guidance concerning the steps that are necessary to document and verify the nature and extent of the disability. Consistent with NDSU and Federal policies, students with documented evidence of disabilities may request reasonable accommodations. However, such requests are not reasonable if they disrupt, are detrimental to and/or endanger patients, students, co-workers and/or instructors, or otherwise cause a fundamental alteration to the program.

Failing to Meet, Reporting and Adjudicating Technical Competencies
Applicants and students of the Pharmacy Doctorate professional program who consistently fail to demonstrate the competencies identified above are ineligible for admission or progression in the program. Students who are admitted to the Pharmacy Doctorate professional program and who realize (either through their own efforts or as demonstrated by a licensing board, a preceptor or a faculty member in the program) that they do not (or no longer) consistently demonstrate the requisite technical competencies to be eligible for licensure have an ethical obligation to self-report that information to the College’s administration (i.e., the appropriate department chair, the Senior Associate Dean and/or the Associate Dean for Student Affairs). Once realized (through own awareness or as reported to them by a licensing board, faculty, or preceptor), failure to self-report a consistent lack of technical competencies represents a violation of the Student Conduct Policy (College Policy Manual, Policy 3.01).

SUBSTANCE MISUSE TESTING POLICY 3.14
The NDSU College of Health Professions is committed to ensuring safe, healthy learning environments, including both didactic and experiential learning environments, for all of its students. The use of illicit drugs, as well as the overt misuse of alcohol and/or legally prescribed medications (including, but not limited to, mood altering medications) compromise learning environments and are prohibited under College Policy 3.01: Student Conduct Policy and University Policy 155. It is beneficial for all College of Health Professions stakeholders (including its students, faculty, staff, clinical partners, and the patients and families we serve) to establish a testing policy process to ensure the safety and health of these learning environments, as well as to ensure an equitable due process for students who are alleged to partake in substance misuse.

Basis for Testing
The College of Health Professions reserves the right to require any student enrolled in one of its pre-professional or professional programs and/or enrolled in any course housed within the College to undergo testing for substance misuse. All testing is coordinated and monitored through the Office of the Associate Dean for Student Affairs and Faculty Development (ADSAFD). All testing must be direct observation, 10 panel (or higher) tests, and must be conducted at a WADA-accredited or SAMHSA-certified laboratory. Per College Policy 3.12: Student File Contents, all test results shall be maintained in a secure location in the Office of the ADSAFD, and may be included in the Student’s Personal File. The default method of analysis will be urinalysis, although the ADSAFD reserves the right to require alternative methods of analysis (for example, blood analysis or hair analysis) where appropriate. Alternative methods (if required) will be disclosed in writing when notifying the student about the need to be tested.

Nonrandom Testing
Nonrandom testing for substance misuse may occur as a requirement for entry into clinical sites (per site policies or program-specific experiential education policies), or to fulfill the requirements of sanctions imposed under College Policy 3.01: Student Conduct Policy.

Reasonable Suspicion Testing
Incidents or events involving suspected substance misuse by students shall be reported to the ADSAFD using the Reasonable Suspicion Reporting Form. Reasonable suspicion shall be determined using objective evidence (photos, legal documents, or other documentation), reports made by credible sources (law enforcement, clinical site staff, NDSU faculty and staff, etc.), or a combination of these sources. Because it is a violation of University Policy 155 and College Policy 3.01: Student Conduct
Policy to misuse alcohol or prescription medications, or to use illicit drugs, and testing may exonerate the student of an alleged policy violation should the allegation be made falsely, the ADSAFD may exercise discretion in determining what evidence is of sufficient credibility to require testing. A descriptive summary of the evidence will be provided to the student at the time the student is informed of the need to submit to testing.

Random Testing
The College of Health Professions may implement a random substance misuse testing program. Should a random substance misuse testing program be implemented, the parameters of the program must be made freely available on the College of Health Profession’s website, and students must be provided notice of the policy at least 6 months prior to its implementation. No more than 5 percent of the active College of Health Professions student body may be randomly selected for testing in any academic semester. No student will be randomly identified for testing more than once in a single academic year. The random selection of students will be implemented using a computer generated random number generating process, with interval (or other non-weighted) sampling. A summary of that selection process shall be provided to the Dean of the College of Health Professions on an annual basis.

Testing Process
Students who are required to undergo testing will be notified in writing via NDSU email. Upon receiving a request for testing, students are responsible for providing a 10 (or larger) panel, direct observation, drug screen from a reputable, appropriated licensed vendor within 12 business hours of the date and time of the request. The student identified for testing is solely responsible for obtaining his/her own appointment for testing, his/her transportation to the appointment, and paying the costs of these tests. An original copy of the test results must be delivered to the Office of the ADSAFD at the end of the 12 business hour window. Test results that show evidence of a diluted sample will not be accepted, and will not result in additional time in which to submit test results.

Ramifications for Positive Test Results or Failure to Test in a Timely Manner
Students whose test results are positive are subject to sanctions outlined in College Policy 3.01: Student Conduct Policy. Once sanctions are assigned, a student’s rights of due process are also outlined in College Policy 3.01: Student Conduct Policy.

Students who fail to submit an original copy of their test results within the 12 business hour window face additional sanctions under College Policy 3.01: Student Conduct Policy. More specifically, students who fail to provide the required test results within the 12 business hour window will be sanctioned under the presumption that the test results for the substance misuse in question are positive.

Testing Alternatives
Students whose religious, cultural or other practices prohibit them from undergoing a specific type of drug test may request that the ADSAFD require an alternative test, so long as the alternative test is of equal or greater accuracy and precision than the original test required by the ADSAFD. All parameters identified previously apply to the alternative test. In the event that no such test exists, or in the event that students are unable to justify the need for an alternative test, students may be found in violation of College Policy 3.11: Student Technical Standards.

TECHNOLOGY REQUIREMENTS FOR PHARMACY STUDENTS

Students are required to purchase an iPad for use in the classroom, Thrifty White Concept Lab, and experiential rotation sites. The Pharmacy program endorses a full size iPad that has 32 GB or higher based upon the amount of memory, sharpness of display, and speed. However, students may choose any current iPad version and size, including previous iPads (5, 6, Air or Pro) since Apple™ has a consistent operating system between devices so that older devices are still compatible when upgrades are made. When making your choice, keep in mind that the iPad will be utilized for a variety of applications including note taking and for testing; the iPad mini may not be an optimal choice for all formats.
Other devices, such as smartphones, android tablets, and/or laptops cannot be substituted for the iPad requirement. It is important to keep the technology consistent in the learning environment so that all students have the same learning experience. Even though other devices can do some of the same things an iPad can do, all of these devices operate off different platforms. Not all educational apps will work on all platforms and some devices (e.g. smart phone) are not appropriate for some apps (exams). Lastly, apps are designed to work on tablets, not laptops. If you have already purchased a device other than an Apple iPad it may be possible to sell it on Craigslist, eBay, or Amazon so that you may recoup some of your investment.

We highly recommend that iPads be purchased through the NDSU Bookstore. Exclusive arrangements have been made with the NDSU Bookstore to allow students the ability to charge the iPad to their student account. For students with financial aid, the charge will be subtracted from your aid. The NDSU Bookstore has knowledgeable staff including: Brad Sonmor, Dept. Manager, and Justin Hills, Certified Apple Technician. Finally, Bookstore personnel will assist students with any service issues for all iPads purchased from them. Options to purchasing a less expensive iPad include buying a “refurbished” iPad through the online Apple store or purchasing one through Craigslist, eBay, or Amazon.

It is recommended that students also purchase the AppleCare+ Warranty. The cost of the warranty is $69 - $129 for two (2) years and provides technical support and repairs, including coverage for up to two (2) incidents of accidental damage (such as dropping it). See http://store.apple.com/us/product/S4689LL/A/applecare-for-ipad for more information. (Note: If your parents purchase this device for you, their homeowners insurance may cover the iPad, minus the cost of the deductible, in the event it is stolen. You will need to keep track of the device ID in order to report it.) The AppleCare+ Warranty can be purchased from the Bookstore. Again, the NDSU Bookstore will assist students with service issues if the iPad was bought from them.

Students have also found that purchasing an external keyboard is advantageous for taking notes in class. There are several to choose from, some of which are described in this article: https://www.digitaltrends.com/mobile/best-ipad-keyboards/.

Lastly, a word about iPad Apps. Initially, you will “need” only a few Apps, many which are free. At the minimum, you will need:

- An App to take notes in class on your iPad. The iPad comes loaded with “Notes”, which is basically a blank legal pad you can take notes on. Newer versions of the iPad come with “Pages”, Apple’s version of Word. NDSU students can also download Microsoft Office on their iPads for FREE! Check the following for details: https://www.ndsu.edu/its/software/software_licensing_program/microsoft/office_proplus/
- If you want to take notes on a course handout that you’ve downloaded, “iAnnotate” is a fantastic App and worth the $9.99. Another note taking App that is cheaper is Notability for $9.99 that is a white board application for drawing, writing, and note-taking.
- “Adobe Reader” to view PDF documents and also provides annotation options-FREE
- Some textbooks are available as downloads on the iPad as a Kindle, iBook, &/or Nook and you will find electronic books are cheaper than the hardcover new edition. Typically, the Kindle version is the most economical of the three listed. You will need to install the “Kindle” App-FREE
- Blackboard – FREE – and Yuga App which is also FREE to be able to access these sites directly without having to go through Safari.
- High Point Mobile Campus Connection - FREE – https://m.cnd.ndus.edu. You can now view and register for classes, see exam schedules (at institutions where exam schedules are used), view grades, see advisor information, check waitlist status, review student calendars, check their school bills, see the status of your financial aid, and review account activity.
You may also “want” the following useful Apps at some time during your pharmacy education:

- **Responseware (mobile clicker).** The App is free to download, licensing is now also free. Watch the ITS site for more information on new licensing program: [https://www.ndsu.edu/its/instructional_services/clickers/student_resources/](https://www.ndsu.edu/its/instructional_services/clickers/student_resources/)
- A medical calculator, such as Calculate by QxMD - FREE or MedCalX - $4.99 (In-App purchase to unlock app).
- Quizlet Flashcards and Study Tools-FREE with option of In-App purchase of Quizlet Plus for $19.99

### TERMINATION – RIGHT TO TERMINATE ENROLLMENT POLICY 3.03

The College of Health Professions reserves the right to terminate the enrollment of any student at any time, if the student demonstrates that he or she is unsuited for a professional career and its inherent responsibilities and obligations. Circumstances that may lead to student termination will include, but not be limited to, violation of state or federal statutes or regulations.

### TUITION

In 2012 the North Dakota Board of Higher Education approved a differential tuition for the pharmacy professional program which is higher than the standard university tuition rate. Differential tuition is needed to cover the higher costs associated with a professional degree program. This differential tuition does not include other student fees, room and boards, and miscellaneous expenses. As noted earlier, students are expected to complete certain degree requirements including Introductory Pharmacy Practice Experience (IPPE) and Advanced Pharmacy Practice Experience (APPE) during summer months in addition to the regular academic year. Starting with the fall 2013 semester, students should expect to be charged (and to pay) differential tuition on course credits for all professional program degree requirements regardless of the term in which credits are earned. The amount of differential tuition in an academic term can be found on the NDSU Financial Aid and Scholarships website: [www.ndsu.edu/onestop/accounts/](http://www.ndsu.edu/onestop/accounts/). There is a non-refundable admission deposit fee of $500 for students who have been accepted to the pharmacy program. This fee is to assure their place in the class and will be applied to the differential tuition for the first semester of the professional program.
NDSU ENTRY-LEVEL PHARM. PROGRAM
New Admission Pathway Pre-Pharmacy Curriculum
2019-2020

Two Year Track (4 Semesters + 1 Summer Session; 81 credits which includes 3 cr. for Engl 110)

<table>
<thead>
<tr>
<th>FIRST YEAR (43 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
</tr>
<tr>
<td>Biol 150/150L, General Biology I/Lab</td>
</tr>
<tr>
<td>Chem 121, General Chemistry I</td>
</tr>
<tr>
<td>Chem 121L, General Chemistry I Lab</td>
</tr>
<tr>
<td>English 120, Comp II*</td>
</tr>
<tr>
<td>Math 146, Applied Calculus I</td>
</tr>
<tr>
<td>CHP 190, Critical Thinking</td>
</tr>
<tr>
<td>17</td>
</tr>
</tbody>
</table>

**SUMMER SESSION** - PCAT Exam
Elective – Humanities and Fine Arts, 6 Credits (If not already completed or will take during another semester.)

1 Students who complete English 120 with a “C” or higher will receive credit for English 110 with a passing grade (P).

<table>
<thead>
<tr>
<th>SECOND YEAR (35 credits)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>FALL</strong></td>
</tr>
<tr>
<td>PSCI 300, Pharmaceutical Organic Chemistry</td>
</tr>
<tr>
<td>Comm 216, Intercultural Comm</td>
</tr>
<tr>
<td>Micr 202/202L or 350/350L*</td>
</tr>
<tr>
<td>Wellness</td>
</tr>
<tr>
<td>17</td>
</tr>
</tbody>
</table>

φ Students who complete Microbiology 350 and 350L take an additional two credits of coursework. These students would then complete 19 credits during this semester.

(ALL courses must be completed with at least a grade of “C.”)
NDSU ENTRY-LEVEL PHARM.D. PROGRAM  
Pre-Pharmacy Curriculum  
2019-2020

Three year track. Allows room for a minor of study. (6 Semesters; 104 credits which includes 3 cr. for Engl 110)

### FIRST YEAR (33 credits)

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Biol 150/150L, General Biology I/Lab</td>
<td>* 3/1</td>
<td>Biol 151/151L, General Biology II/Lab</td>
<td>* 3/1</td>
</tr>
<tr>
<td>Chem 121, General Chemistry I</td>
<td>* 3</td>
<td>Chem 122, General Chemistry Il</td>
<td>* 3</td>
</tr>
<tr>
<td>Chem 121L, General Chemistry I Lab</td>
<td>1</td>
<td>Chem 122L, General Chemistry II Lab</td>
<td>1</td>
</tr>
<tr>
<td>English 120, Comp II¹</td>
<td>* 3</td>
<td>Comm 110, Fundamentals</td>
<td>* 3</td>
</tr>
<tr>
<td>Math 146, Applied Calculus I</td>
<td>* 4</td>
<td>Elective – Humanities &amp; Fine Arts</td>
<td>3</td>
</tr>
<tr>
<td>CHP 190, Critical Thinking &amp;</td>
<td>2</td>
<td>Wellness</td>
<td>2</td>
</tr>
<tr>
<td>Academic Success</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

¹ Students with composite ACT scores of 20 or lower must register for English 100 and 110 Fall Semester and take Engl 120 Spring Semester. Students who complete English 120 with a “C” or higher will receive credit for English 110 with a passing grade (P).

### SECOND YEAR (33 credits)

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chem 341, Organic Chemistry I</td>
<td>* 3</td>
<td>Chem 342, Organic Chemistry II</td>
<td>3</td>
</tr>
<tr>
<td>Chem 341L, Organic Chemistry I Lab</td>
<td>1</td>
<td>Econ 201, Microeconomics</td>
<td>3</td>
</tr>
<tr>
<td>Comm 216, Intercultural Comm</td>
<td>* 3</td>
<td>Phys 211, College Physics I</td>
<td>3</td>
</tr>
<tr>
<td>Elective – Humanities &amp; Fine Arts</td>
<td>3</td>
<td>Credits towards Minor</td>
<td>3</td>
</tr>
<tr>
<td>Credits towards Minor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td><strong>Total</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

### THIRD YEAR (35 credits)

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bioc 460, Biochemistry I</td>
<td>3</td>
<td>Bioc 461, Biochemistry II</td>
<td>3</td>
</tr>
<tr>
<td>Micr 350/350L or 202/202L</td>
<td>* 3/2</td>
<td>Engl 324 or 325, Upper Division English</td>
<td>3</td>
</tr>
<tr>
<td>Stat 330, Introductory Statistics</td>
<td>* 3</td>
<td>Micr 460, Pathogenic Microbiology</td>
<td>3</td>
</tr>
<tr>
<td>Credits towards Minor</td>
<td>6</td>
<td>Credits towards Minor</td>
<td>9</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td>17</td>
<td><strong>Total</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

*Selected core courses will be used for selection criteria to determine GPA used in calculation for admission to the professional program. These courses must show evidence of letter grade, or other means of demonstrating acceptable competency (i.e. AP – CEEB) and MUST be completed by the end of fall semester prior to the December 31 deadline to apply to the pharmacy program. Remaining courses, which are required and listed in the pre-pharmacy curriculum, MUST be completed by the end of spring term.

(ALL courses must be completed with at least a grade of “C.”)
ADMISSIONS POLICY

The pre-pharmacy curriculum is open to all high school graduates and college transfer students who have not completed the requirements to enter the professional pharmacy program. To enter the pre-pharmacy program the student must qualify for and obtain admission to the University. Applications to NDSU may be obtained from the NDSU Office of Admission.

Admission to the professional pharmacy program is competitive and limited to 85 students each year. Students are selected based upon successful prior academic performance at the time of admission. There are two paths to gain admission into the pharmacy program.

**New Early Admission Pathway (EAP) to the Professional Entry-Level Pharm.D. Program**

The first is our “early admission” path. This path is designed for high achieving high school students who seek an expedited path to the professional program. Students are selected for this path based on their academic credentials (including high school grade point averages and ACT or SAT scores) at the time they apply to NDSU. Preference is given to North Dakota residents. Supplemental applications are submitted online directly to the Pharmacy Admissions Committee. A nonrefundable $125.00 application fee must accompany the supplemental application. Students are evaluated during the summer before they enroll at NDSU as first year students, and will be offered admission to this path on or before May 15 of that year. Once accepted on this admission path, students must attend NDSU for the entire six-year program. The first year entails standard pre-professional studies. At the conclusion of the first year, students who maintain academic and professional requirements transition into a five-year professional program. During the first year in the professional program, students complete all remaining pre-professional requirements, including an expedited set of courses that prepare them for the final four years of the professional program. Students also complete the Pharmacy College Admissions Test (PCAT) and an on-site interview. Transition into the final four years of the professional program is guaranteed as long as students meet all academic and professional requirements. Students accepted into the “early admissions” path, but who fail to meet all academic and professional requirements, are encouraged to apply to the professional program through the second path described below.

**Traditional Admission Pathway to the Professional Entry-Level Pharm.D. Program**

The second path is our “traditional” path. Pre-pharmacy students (including transfer students) typically apply for admission to the four-year professional program during the second (or in some cases the third) pre-pharmacy year. Admission to the professional pharmacy program is competitive and limited to the difference between the number of available seats (85) and the number of “early admission” students entering the final four years of the professional program each year. Students are selected based upon successful pre-pharmacy academic performance. Preference is given to North Dakota residents and students who attend NDSU. A cumulative grade point average of 3.0 (4.0 = A) or above is required before an applicant will be evaluated for admission to the professional program. The actual admission cutoff is much higher. The Pharmacy College Admission Test (PCAT) is an admission requirement. Students must take the PCAT during the July or September testing dates. An on-site interview is part of the admission process for the professional program. Supplemental applications are due on or before December 31 for subsequent fall semester admission. Supplemental applications are submitted online directly to the Pharmacy Admissions Committee. A nonrefundable $125.00 application fee must accompany the supplemental application.

Applicants should note that admission to the University does not grant admission to the Entry Level Pharm.D. Program. All students must apply and be formally accepted by the Pharmacy Admission Committee of the School of Pharmacy before they may begin the professional courses in the four years of the pharmacy program.
Students may apply to the School of Pharmacy for admission into the Professional Pharmacy program upon satisfactory completion of the pre-pharmacy program or evidence that this program will be successfully completed at either NDSU or another accredited college prior to admission. Students not previously enrolled at NDSU must apply both to NDSU (with a NDSU Application for Admission) and to the School of Pharmacy (with the Supplemental Pharmacy Application form).

Applications will be reviewed by the Pharmacy Admission Committee, which is composed of administrators, pharmacy practitioners, and pharmacy faculty in the basic, administrative and clinical sciences. The size of each entering professional class is limited by the availability of the resources of the School of Pharmacy and the capacity of the clinical facilities. NDSU is a state supported institution, thus, residents of North Dakota will be given primary consideration. Residents from other states who attend NDSU full time will also be given partial residency preference. A cumulative grade point average of 3.0 (4.0=A) or above is required before an applicant will be evaluated for admission to the Professional Entry Level Pharm.D. Program. The actual admission "cut off" is generally much higher than a 3.0.

Application Procedures

1. APPLICATION MATERIALS are available on PharmCAS and should be submitted by December 31. The student is responsible for seeing that ALL application materials are submitted and received by December 31. Applications with materials missing will not be considered for admission. Applications received after December 31 may not be evaluated. Applications submitted after December 31 will be used to fill remaining spots in the professional program if any are available after evaluating those applications submitted prior to the December 31 deadline.

2. APPLICATION FEE – All PharmCAS fees must be paid before your application will be processed. A $125.00 non-refundable application fee is required for admission.

3. If the applicant is not a current or former NDSU student, separate application must be made for admission to NDSU through the NDSU Office of Admission.

4. Official transcripts from all universities and colleges attended must be sent to the NDSU Office of Admission AND to the College of Health Professions. The transcripts must contain the winter quarter or fall semester grades. Students must show transcript evidence that all coursework required by the end of the spring term (courses listed by name and number) will be completed by the end of spring term. The applicant must also supply official transcripts of spring term. It is the responsibility of the applicant to determine that all transcripts and other application materials (supplemental applications and completed PCAT scores) are submitted and updated if incomplete transcripts are initially submitted.
   a. Note: NDSU students not enrolled in the pre-pharmacy major must contact the Office of Registration & Records to request their transcripts be forwarded to the School of Pharmacy.

5. The Pharmacy College Admission Test (PCAT) is required. Completed scores must be sent to the Chair of the Pharmacy Admission Committee. For information on the PCAT, contact us at 701-231-7601. The School of Pharmacy requires that students take the PCAT in July, September, October or November 2018 as their most recent exam. We will accept PCAT scores back three years (July 2015 to November 2018). The web address for the PCAT is www.pcatweb.info.

6. All courses must be completed with at least a grade of "C." Selected core courses, indicated by an asterisk (*) must be completed by the end of fall semester prior to the December 31 deadline date to apply to the pharmacy program. Remaining courses, which are required and listed in the pre-pharmacy curriculum, MUST be completed by the end of spring term. The only exceptions are the electives which may be completed during the summer (up to six credits).

7. An interview on campus is part of the evaluation process for students who receive final consideration for admission.
Notification of Acceptance

1. Applicants are notified of their acceptance as rapidly as admission decisions are made.
2. **Acceptance Deposit**: Applicants who are offered a position into the entry-level Professional Pharm.D. program are required to submit a **non-refundable** deposit fee of $500.00 to the School of Pharmacy to assure a place in the class. This deposit is typically due within 30 days of receipt of an admission letter. This fee will be applied to the differential tuition for the first semester of the professional program.
3. **Differential Tuition.** In 2012 the North Dakota Board of Higher Education approved a differential tuition for the pharmacy professional program which is higher than the standard university tuition rate. Differential tuition is needed to cover the higher costs associated with a professional degree program. This differential tuition does not include other student fees, room and boards, and miscellaneous expenses. As noted earlier, students are expected to complete certain degree requirements including Introductory Pharmacy Practice Experience (IPPE) and Advanced Pharmacy Practice Experience (APPE) during summer months in addition to the regular academic year. Starting with the fall 2013 semester, students should expect to be charged (and to pay) differential tuition on course credits for all professional program degree requirements regardless of the term in which credits are earned. The amount of differential tuition in an academic term can be found on the NDSU Financial Aid and Scholarships website: [www.ndsu.edu/onestop/accounts/](http://www.ndsu.edu/onestop/accounts/).
4. An additional $100 fee is required. It will be applied to the **first** year **annual** fee for registration as a Pharmacy Student Intern in North Dakota, with the North Dakota Board of Pharmacy. Note: this $100 annual fee for licensure as a student intern is required by the North Dakota Board of Pharmacy for four years of enrollment in the professional program. Once a student is accepted into the professional pharmacy program, he or she is expected to continuously hold a valid North Dakota Pharmacy Intern license for the entirety of their professional program.

Reapplication

A student who has made application to the professional program but is not accepted, who fails to enroll after being accepted or who was unsuccessful in the Early Admissions Pathway program (EAP), may reapply for admission to the professional program. Students are allowed to apply to the program twice (including the EAP). Regardless of whether or not a student meets the eligibility requirements, once a student pays the pharmacy application fee, that application officially counts toward the limit of two attempts. All academic and admission requirements in force at the time of his/her reapplication must be met.

PLEASE NOTE

The faculty reserve the right to change rules and regulations including those relating to admission, instruction and graduation. Such changes may apply to prospective students, as well as students already enrolled. Changes will be shared with students in a timely manner. However, it is the responsibility of the student to periodically contact their adviser or the Dean’s Office to obtain current policies.

For further information, forward inquiries to the Chair of the Pharmacy Admission Committee, School of Pharmacy, College of Health Professions, North Dakota State University, Dept. 2650, PO Box 6050, Fargo, ND 58108.
NORTH DAKOTA STATE UNIVERSITY DOCTOR OF PHARMACY
PROGRAM-LEVEL ABILITY-BASED OUTCOMES

This document defines the ability-based outcomes, or what students will be able to do upon completion of the Doctor of Pharmacy curriculum at North Dakota State University School of Pharmacy. The educational outcomes reflect competencies essential for an entry-level pharmacist in any setting to practice collaboratively as a member of an interprofessional team, provide patient-centered care, contribute to the health of diverse patient populations, demonstrate leadership, and effectively manage a complex work environment. A glossary of terms used in this document can be found in Table 1.

Domain 1. Foundational Knowledge
Students will be able to develop, integrate, and apply knowledge from the foundational sciences (biomedical, pharmaceutical, social/behavioral/administrative, and clinical sciences) to explain drug action, solve therapeutic problems, evaluate scientific literature, and advance population health and patient-centered care.

Specific Competencies:
1.1 Integrate knowledge from foundational sciences to explain how specific drugs or drug classes work and evaluate their potential value in individuals and populations.
1.2 Apply knowledge in foundational sciences to solve therapeutic problems and advance patient centered care.
1.3 Critically analyze scientific literature related to drugs and disease to enhance clinical decision making.
1.4 Demonstrate an understanding of scientific research and discovery.
1.5 Identify and critically analyze emerging theories, information, and technologies that may impact patient-centered and population based care.

Domain 2. Essentials for Practice and Care

2.1 Patient-Centered Care
Students will be able to provide patient-centered care as the medication expert (collect and interpret evidence, prioritize, formulate assessments and recommendations, implement, monitor and adjust plans, and document activities).

Specific Competencies
2.1.1 Collect and interpret subjective and objective evidence related to patient, medications, allergies/adverse reactions, and disease.
2.1.2 Prioritize patient health-related needs.
2.1.3 Formulate assessments and implement evidence based care plans and recommendations. Monitor the patient and adjust care plan as needed.
2.1.5 Document patient care related activities.

2.2 Medication use systems management
Students will be able to manage patient healthcare needs using human, financial, technological, and physical resources to optimize the safety and efficacy of medication use systems (i.e., procurement, storage, prescribing, transcription, dispensing, administration, monitoring, and documentation).

Specific Competencies:
2.2.1 Identify, compare, and contrast the components of typical medication use systems in different pharmacy practice settings.
2.2.2 Identify and utilize resources to optimize the safety and efficacy of medication use systems.
2.2.3 Manage medication use systems during patients’ transitions of care.
2.2.4 Apply standards, guidelines, best practices, and established processes related to safe and effective medication use.
2.2.5 Utilize continuous quality improvement techniques in the medication use process.
2.2.6 Accurately select, prepare, and dispense medications (prescriptions, non-prescription, sterile, and non-sterile dosage forms).
**2.3 Health and Wellness**
Students will be able to design prevention, intervention, and educational strategies for individuals and communities to manage chronic disease and improve health and wellness.

**Specific Competencies:**

2.3.1 Deliver systematic preventive care, using risk assessment, risk reduction, screening, education, and immunizations.

2.3.2 Provide prevention, intervention, and educational strategies for individuals and communities to improve health and wellness.

2.3.3 Evaluate personal, social, economic, and environmental conditions to maximize health and wellness.

**2.4 Population-based Care**
Students will be able to describe how population-based care influences patient-centered care and the development of practice guidelines and evidence-based best practices.

**Specific Competencies:**

2.4.1 Assess the healthcare status and needs of a targeted patient population.

2.4.2 Develop and provide an evidence-based approach that considers the cost, care, access, and satisfaction needs of a targeted patient population.

2.4.3 Participate in population health management by evaluating and adjusting interventions to maximize health.

**Domain 3. Approach to Practice and Care**

**3.1 Problem Solving**
Students will be able to identify problems; explore and prioritize potential strategies; and design, implement, and evaluate a viable solution while considering ethical, legal, and cultural dimensions.

**Specific Competencies:**

3.1.1 Identify and define the primary problem.

3.1.2 Define goals and alternative goals.

3.1.3 Within the context of the problem, explore multiple solutions by organizing, prioritizing, and defending each possible solution.

3.1.4 Identify possible positive and negative outcomes by reviewing assumptions, inconsistencies, and unintended consequences.

3.1.5 Implement the most viable solution, including monitoring parameters, to measure intended and unintended consequences.

3.1.6 Reflect on the solution implemented and evaluate its effects to improve future performance.

**3.2 Education**
Students will be able to educate all audiences (e.g., patients/caregivers, technicians and interns, pharmacy students, fellow pharmacists, other healthcare providers, legislators) by determining the most effective and enduring ways to impart information and assess learning.

**Specific Competencies:**

3.2.1 Assess the need for pharmacist-delivered education.

3.2.2 Retrieve, analyze, and interpret the professional, lay, and scientific literature to effectively communicate information to a specific audience.

3.2.3 Select the most effective techniques/strategies to achieve learning objectives for education given to a specific audience.

3.2.4 Deliver the education to the intended audience.

3.2.5 Assess audience comprehension to ensure effective instruction/education was achieved.
### 3.3 Patient Advocacy

Students will be able to represent the patients’ best interests.

**Specific Competencies:**

3.3.1 Empower patients to take responsibility for, and control of, their health.

3.3.2 Assist patients in obtaining the resources and care required in an efficient and cost-effective manner.

### 3.4 Interprofessional Collaboration

Students will be able to actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding, and shared values to meet patient care needs.

**Specific Competencies:**

3.4.1 Establish a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs.

3.4.2 Incorporate the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable.

3.4.3 Communicate in a manner that values team based decision making and shows respect for contributions from other areas of expertise.

### 3.5 Cultural Sensitivity

Students will be able to identify and appropriately adjust the content and delivery of pharmacy services based on the unique socio-cultural characteristics of the patient receiving care.

**Specific Competencies**

3.5.1 Recognize the collective identity and norms of different cultures without overgeneralizing (i.e., recognize and avoid biases and stereotyping).

3.5.2 Demonstrate an attitude that is respectful of different cultures.

3.5.3 Assess a patient’s health literacy and modify communication strategies to meet the patient’s needs.

3.5.4 Appropriately incorporate patients’ cultural beliefs and practices into patient care.

### 3.6 Communication

Students will be able to effectively communicate using verbal, nonverbal, and written methods when interacting with individuals, groups, and organizations.

**Specific Competencies:**

3.6.1 Demonstrate effective interpersonal skills when interacting with others to establish rapport and build trusting relationships.

3.6.2 Actively listen and ask appropriate open and closed-ended questions to gather information.

3.6.3 Interview patients using an organized structure, specific questioning techniques (e.g., motivational interviewing), and medical terminology adapted for the audience.

3.6.4 Communicate assertively, persuasively, confidently, and clearly.

3.6.5 Use available technology and other media to assist with communication as appropriate.

3.6.6 Elicit feedback, validating understanding of communication.
<table>
<thead>
<tr>
<th>Domain 4. Personal and Professional Development</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>4.1 Self-Awareness</strong></td>
</tr>
<tr>
<td>Students will be able to examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.</td>
</tr>
<tr>
<td><strong>Specific Competencies:</strong></td>
</tr>
<tr>
<td>4.1.1 Demonstrate motivation, attention, and interest (e.g. habits of mind) during learning and work-related activities.</td>
</tr>
<tr>
<td>4.1.2 Identify, create, implement, evaluate and modify plans for personal and professional development for the purpose of individual growth.</td>
</tr>
<tr>
<td>4.1.3 Demonstrate constructive coping strategies to manage stress and conflict.</td>
</tr>
<tr>
<td>4.1.4 Demonstrate flexibility and maturity in adjusting to change.</td>
</tr>
<tr>
<td>4.1.5 Recognize ambiguity is part of healthcare and respond by utilizing appropriate resources in dealing with uncertainty.</td>
</tr>
<tr>
<td>4.1.6 Demonstrate self-confidence when working with patients, families, and members of the healthcare team.</td>
</tr>
</tbody>
</table>

| **4.2 Leadership** |
| Students will be able to demonstrate responsibility for creating and achieving shared goals, regardless of position |
| **Specific Competencies:** |
| 4.2.1 Identify the history (e.g., successes and challenges) of a situation/organization before implementing changes. |
| 4.2.2 Develop relationships, value diverse opinions, and understand individual strengths and weaknesses to promote teamwork. |
| 4.2.3 Persuasively communicate goals to stakeholders to help build consensus. |
| 4.2.4 Empower team members by actively listening, gathering input or feedback, and fostering collaboration. |

| **4.3 Innovation & Entrepreneurship** |
| Students will be able to engage in innovative activities by using creative thinking to envision better ways of accomplishing professional goals. |
| **Specific Competencies:** |
| 4.3.1 Demonstrate initiative and creative decision making when confronted with novel problems or challenges. |
| 4.3.2 Develop new ideas and approaches to improve quality. |

| **4.4 Professionalism** |
| Students will exhibit behaviors and values consistent with the trust given to the profession by patients, other healthcare providers, and society. |
| **Specific Competencies:** |
| 4.4.1 Demonstrate empathy, compassion, integrity, and respect for others. |
| 4.4.2 Demonstrate preparation, initiative, and accountability consistent with a commitment to excellence. |
| 4.4.3 Demonstrate a commitment to legal and ethical principles pertaining to provision of patient centered care, including compliance with relevant laws, policies, and regulations. |
| 4.4.4 Demonstrate mindfulness of the environment, recognizing that one’s professionalism is constantly evaluated by others. |
| 4.4.5 Actively participate in the profession and broader community. |

± See Appendix I. for examples
ϕ See Appendix II for examples
Approved: 9/2007
Source: Curriculum Committee; Pharm.D. Instructional Faculty Meeting
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>Reference(s)</th>
</tr>
</thead>
</table>
| **Entrepreneurial skills** | Skills that entrepreneurs effectively exhibit such as: decision making, strategic thinking, risk taking, confidence building, communicating ideas, motivating team members, tolerance of ambiguity, taking responsibility for actions. | 1. Vandel JH. Developing a spirit of entrepreneurism and a managerial attitude in students. *Am J Pharm Educ.* 1985; 49(4): 371-371.
| **Habits of Mind** | The dispositions that are intentionally used by characteristically successful people when confronted with problems that have no immediately apparent solutions. These dispositions include:
1. Persisting
2. Managing impulsivity
3. Listening with understanding and empathy
4. Thinking flexibly
5. Thinking about your thinking, emotions, and biases
6. Striving for accuracy
7. Questioning with critical curiosity; problem posing
8. Applying past knowledge to new situations
9. Thinking and communicating with clarity and precision
10. Attentively gathering data through all senses
11. Creating, imagining and innovating
12. Responding with wonderment and awe
13. Taking responsible risks
14. Finding humor
15. Thinking interdependently
<table>
<thead>
<tr>
<th>Term</th>
<th>Definition</th>
<th>References</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health literacy</td>
<td>One of the social determinants of health referring to the degree to which an individual can obtain and process basic health information to understand and make appropriate health decisions.</td>
<td>1. Consumer Health Informatics Research Resources (CHIRr). Available at: <a href="http://www.chirr.nlm.nih.gov/health-literacy">www.chirr.nlm.nih.gov/health-literacy</a>, Accessed June 2013.</td>
</tr>
</tbody>
</table>
| Interprofessional    | Two or more professions working together collaboratively. Interprofessional is contrasted with the term interdisciplinary, which focuses on when two or more fields within the same profession interact. | 1. World Health Organization (WHO). Framework for action on interprofessional education & collaborative practice. Available at: [http://www.who.int/hrh/resources/framework_action/en/](http://www.who.int/hrh/resources/framework_action/en/), Accessed June 2013.  
| Leadership           | Leadership involves inspiring others. It is a function of knowing yourself, creating a culture of trust and open communication, having a vision that is well communicated, empowering others, taking a broad view of situations, and forming strategic alliances. | 1. Bennis, W. *On Becoming a Leader*. Reading, MA: Addison-Wesley Publishing Company; 1995.  
<p>| Medication Use System| A complex process comprised of medication prescribing, order processing, dispensing, administration, and effects monitoring (e.g., intended or unintended effects). | 1. Institute for Safe Medication Practices. Available at: <a href="http://www.ismp.org/faq.asp#Question_3">http://www.ismp.org/faq.asp#Question_3</a>, Accessed May 2013. |</p>
<table>
<thead>
<tr>
<th>Metacognition</th>
<th>Knowledge about one's own thinking processes and consciously planning, monitoring, and evaluating learning.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Learning Objective</td>
<td>Brief and specific statements that indicate what learners are expected to know or be able to do after taking part in an educational activity. Objectives may be cognitive, affective, or psychomotor.</td>
</tr>
<tr>
<td>Learning (Educational) Outcome</td>
<td>Statements that describe what a learner should be able to do at the end of a program.</td>
</tr>
<tr>
<td>Patient-centered Care</td>
<td>Any care that is respectful of and responsive to individual patient preferences, needs, and values, and ensures that patient values guide all clinical decisions.</td>
</tr>
<tr>
<td>Pharmaceutical Sciences</td>
<td>The integrative science disciplines (e.g., pharmaceutics, pharmacokinetics, pharmacology, toxicology, and medicinal chemistry) taught in the professional pharmacy curriculum that, collectively explain drug actions. The pharmaceutical sciences build on principles introduced in the preprofessional (chemistry, physics, biology) and biomedical (anatomy, physiology, biochemistry) sciences.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Population-based Care</th>
<th>A comprehensive care approach where practitioners assess the health needs of a specific population, implement and evaluate interventions to improve the health of that population, and provide care for individual patients in the context of the culture, health status, and health needs of the populations of which that patient is a member.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Population Health Management</td>
<td>A set of interventions designed to maintain and improve people’s health across the full continuum of care—from low-risk, healthy individuals to high-risk individuals with one or more chronic conditions.2</td>
</tr>
<tr>
<td>Social, Behavioral, and Administrative Sciences</td>
<td>The disciplines and concepts of public health, epidemiology, economics, financial management, health behavior, outcomes, biostatistics and research methods, law and ethics, healthcare administration, management, and operations, marketing, communications, medication distribution systems taught within the professional pharmacy curriculum.</td>
</tr>
</tbody>
</table>


Appendix I. Self-Awareness Examples

Educational Outcome 4.1 Self-Awareness
Students will be able to examine and reflect on personal knowledge, skills, abilities, beliefs, biases, motivation, and emotions that could enhance or limit personal and professional growth.

<table>
<thead>
<tr>
<th>Specific Competencies</th>
<th>Student Examples</th>
</tr>
</thead>
</table>
| 4.1.1 Demonstrate motivation, attention, and interest (e.g. habits of mind) during learning and work-related activities. | (a) Approach tasks with a genuine desire to learn.  
(b) Facilitates learning in others.  
(c) Demonstrates self-direction in completing tasks after initial instructions are given.  
(d) Recognizes that learning from one’s mistakes is a necessary part of the learning process.  
(e) Demonstrates curiosity to explore higher level learning. |
| 4.1.2 Identify, create, implement, evaluate and modify plans for personal and professional development for the purpose of individual growth. | (a) Engages in the practice of reflection for personal and professional improvement.  
(b) Demonstrates awareness of own limitations & need for improvement.  
(c) Sets goals for Continuing Professional Development (CPD) and initiates self-improvement/educational activities.  
(d) Seeks opportunities to stimulate professional growth and learning.  
(e) Takes the initiative to gain an understanding of up-to-date information on new developments and best practices through evidence based medicine. |
| 4.1.3 Demonstrate constructive coping strategies to manage stress and conflict. | (a) Manages time wisely.  
(b) Balances educational, personal and professional activities.  
(c) Demonstrates appropriate conduct amidst adverse circumstances (e.g., maintains personal control, avoids passive-aggressive behavior & inappropriate non-verbal body language).  
(d) Recognizes that stressful situations are resolved by breaking the situation down into smaller, more manageable components.  
(e) Anticipates obstacles and thinks ahead about next steps.  
(f) Recognizes that practice and experience will alleviate anxiety in stressful situations. |
| 4.1.4 Demonstrate flexibility and maturity in adjusting to change with the capacity to alter one’s behavior. | (a) Adapts to changes caused by varying circumstances.  
(b) Prioritizes and re-prioritizes activities in response to change, challenges, or demands.  
(c) Seeks, accepts, and applies constructive feedback for improvement.  
(d) Demonstrates ability to modify strategies as needed to achieve desired outcomes.  
(e) Recognizes when to ask for help and seeks assistance. |
<table>
<thead>
<tr>
<th>Specific Competencies</th>
<th>Student Examples</th>
</tr>
</thead>
</table>
| 4.1.5 Recognize ambiguity is part of healthcare and respond by utilizing appropriate resources in dealing with uncertainty. | (a) Rapidly identifies, acquires collects, and weighs the importance of available information to solve problems.  
(b) Makes decisions based upon analysis of existing information and applied knowledge.  
(c) Rapidly acquires new information and applies knowledge to analyze issues.  
(d) Values input and expertise from others.  
(e) Demonstrates the ability to customize and adapt evidence based guidelines to the individual patient in question.  
(f) Recognizes there may be multiple reasonable solutions to patient care problems based upon evidence based medicine, experience, and intuition. |
| 4.1.6 Demonstrate self-confidence when working with patients, families, and members of the healthcare team. | (a) Maintains eye contact while speaking and listening to patient.  
(b) Demonstrates active listening skills when interacting with members of the healthcare team.  
(c) Contributes information and knowledge in a self-assured, yet courteous manner.  
(d) Displays a willingness and ability to efficiently communicate knowledge based on academic level.  
(e) Displays an ability to discuss personal shortcomings or failures without losing faith in his/her own competence. |
## Educational Outcome 4.4 Professionalism
Students will exhibit behaviors and values consistent with the trust given to the profession by patients, other healthcare providers, and society.

<table>
<thead>
<tr>
<th>Specific Competencies</th>
<th>Examples of Student Behaviors</th>
</tr>
</thead>
</table>
| **4.4.1** Demonstrate empathy, compassion, integrity, and respect for others. | (a) Demonstrates awareness of and sensitivity to needs of colleagues, staff, and faculty.  
(b) Demonstrates sensitivity to others based on differences in age, gender, culture, race, socioeconomic level, religious beliefs, sexual orientation, etc.  
(c) Tactfully questions policies, procedures, and practices.  
(d) Answers questions truthfully and tactfully.  
(e) Respects physical property and environment.  
(f) Demonstrates a considerate attitude towards faculty & fellow students in class (e.g., arrives on time, does not disrupt class, does not use electronic devices inappropriately, etc.) and co-curricular activities.  
(g) Refers to other disciplines and professions in a positive manner and treats them with dignity.  
(h) Appropriately addresses patients, colleagues, team members, faculty, and staff.  
(i) Relates and responds to patients in a caring and compassionate manner.  
(j) Recognizes, accepts, and patiently endures inconveniences to meet the needs of patients.  
(k) Maintains an open, approachable manner.  
(l) Demonstrates honesty in academic endeavors and interactions with others. |
| **4.4.2** Demonstrate preparation, initiative, and accountability consistent with a commitment to excellence. | (a) Strives for accuracy and precision by displaying a willingness to recognize, correct, and learn from errors. (CAPE 4.1.6)  
(b) Seeks, accepts, and applies constructive feedback and criticism & then modifies behavior accordingly.  
(c) Accountable for deadlines; completes assignments and tasks on time.  
(d) Reads & responds to emails, correspondence, & communication within 72 hours or less.  
(e) Comes to class prepared for discussion and/or with homework completed.  
(f) Comes to rotations prepared for patient care experiences, and reviews information as needed.  
(g) Takes responsibility for actions and performance of self and those who report to you.  
(h) Provides constructive feedback to colleagues with intention to help and educate.  
(i) Takes responsibility for appropriate share of team work.  
(j) Provides colleagues and team members with information that is accurate, timely, and organized. |
<table>
<thead>
<tr>
<th>Specific Competencies</th>
<th>Examples of Student Behaviors</th>
</tr>
</thead>
</table>
| 4.4.3 Demonstrate a commitment to legal and ethical principles pertaining to provision of patient centered care, including compliance with relevant laws, policies, and regulations. | (a) Protects patient identity and confidential information.  
(b) Develops appropriate relationship with patients and other members of the healthcare team for optimal care while maintaining professional boundaries.  
(c) Adheres to practice standards as identified by state & federal law.  
(d) Adheres to institution specific policy & procedures.  
(e) Adheres to the Student Academic & Conduct Standards Policy 3.01. |
| 4.4.4 Demonstrate mindfulness of the environment, recognizing that one’s professionalism is constantly evaluated by others. | (a) Presents self in a professional manner (e.g., demeanor, dress, hygiene).  
(b) Utilizes caution & prudence when disclosing personal or private information in a public forum, including social media.  
(c) Intervenes when others are demonstrating behaviors counter to the principles of professionalism.  
(d) Accepts constructive feedback & criticism relative to professional behavior and modifies behavior accordingly. |
| 4.4.5 Actively participate in the profession and broader community. | (a) Actively participates and engages in school organizations &/or other worthwhile endeavors in the pharmacy profession.  
(b) Serves society by using expertise to solve problems (PAT)  
(c) Recognizes & acts on his/her responsibilities to society; locally, nationally, and globally (Acad Med 2013).  
(d) Advocates for underserved populations and those who can’t advocate for themselves. |
Standard
Students in the professional PharmD program shall fulfill all co-curricular requirements within the specified time frame.

Rationale
Learning alongside the formal curriculum allows for exposure and collaboration with other disciplines and is essential to develop the knowledge, skills, and abilities, behaviors, and attitudes necessary to be a team-ready and practice-ready pharmacist.

Description
"Co-curricular activities complement, augment, and/or advance learning that occurs within the formal professional didactic and experiential curriculum" (ACPE Standards 2016, Guidance 4b). The co-curriculum consists of experiences mapping to program level Ability-Based Outcomes and ACPE Standards 3, 4, and 12. Organized by professional year and a particular area of focus, the co-curriculum includes required experiences as well as elective opportunities, which students may choose from based upon their interests, experience, and professional goals. Co-curricular requirements may vary year-to-year depending upon availability and curriculum changes. Students will be informed of co-curricular requirements and deadlines at the beginning of each academic year.

1. Students must fulfill all co-curricular requirements to be in good academic and professional standing. Students who fail to comply with all co-curricular requirements by the due date will be reported to the School of Pharmacy Senior Associate Dean (who shall serve as the Co-Curriculum Director) and receive a Professionalism Infraction. Students are allowed a one week grace-period after the due date to satisfy all co-curricular requirements. Failure to comply with all co-curricular requirements after the one week grace-period will be treated as a “course failure”.

2. Required co-curricular experiences align with curricular content taught in that professional year and focus on essential knowledge, skills, abilities, behaviors, and attitudes necessary to be a self-aware, team-ready, and practice-ready pharmacist.

3. Elective co-curricular experiences consist of a menu of opportunities that students may choose from based upon their interests, experience, and professional goals.
   a. Students are encouraged to select elective activities that will enhance their development as a pharmacist and growth in a particular area. Faculty advisors can assist students in making selections.
   b. Although a co-curricular activity may map to more than one ACPE Standard and Ability-Based Outcome, it may only be used once to fulfill program requirements.
   c. Not all elective activities will be available each semester or year depending upon the sponsoring agency or organization.
   d. Students wishing to add a co-curricular activity to the menu of electives should contact the Co-Curriculum Director PRIOR to the activity to discuss justification for inclusion. The student will work with the Director to devise learning outcomes for the activity to ensure it meets the definition for co-curriculum and can be adequately assessed. Requests must be approved PRIOR to the student’s completion of the co-curricular activity, which may take up to 4 weeks. Therefore, students are encouraged to plan ahead.

Student Process
1. Credit for all co-curricular experiences is given provided the student fulfills the activity in its entirety and uploads the required artifact to their Blackboard e-Portfolio by the specified due date.

2. If the experience is an elective, complete the ‘Co-Curricular Elective Experience Tracking Form as soon as possible after the experience and upload it into their personal Blackboard e-Portfolio.
3. Conduct an end of semester self-assessment of learning related to the co-curriculum focus area using the guided reflection prompts:
   a. What were your learning objectives for the co-curriculum focus area at the beginning of the semester?
   b. In what ways has your knowledge or skills in this focus area been advanced this semester or year from the co-curriculum experiences?
   c. How might your involvement in these co-curricular experiences prepare you for future practice?
   d. What learning is still necessary for you to achieve your learning objectives in this focus area?
   e. Based upon your self-assessment, identify at least one learning objective pertaining to this co-curricular focus area that you will continue to work on and a plan to further develop that area.

4. Write a reflection from #3 above, making sure to include all guided reflection prompts (a. – e.) and upload it to your e-Portfolio by the due date. Reflections and fulfillment of Co-Curricular requirements will be assessed using the Reflection Paper and e-Portfolio Grading Rubric.

5. Complete all requirements in your Co-Curriculum e-Portfolio, upload it to Blackboard, and share it with your advisor by the due date.

6. Arrange a time to meet with your faculty advisor prior to the end of the semester to discuss your professional growth.

7. Students who are out of sequence or graduating later than originally intended will be informed of co-curricular expectations by the Co-Curriculum Director.

**PHARMACY COURSE DESCRIPTIONS (INCLUDES PRE-REQUISITES)**

**College of Health Professions (CHP):**

**CHP 400. Interprofessional Health Care Practice. 3 Credits.**
This course is designed for pharmacy, nursing, allied sciences, and other allied health students focusing on the necessary knowledge, skills, and attitudes to function as an effective member of the health care team.
PRE-REQ: PHRM 355 for Pharmacy students (with a grade of Pass). Cross-listed with HNES.

**Pharmaceutical Sciences (PSCI)**

**PSCI 367. Pharmaceutical Calculations. 1 Credit.**
Qualitative and quantitative principles encompassing calculations performed by pharmacists in traditional and specialized practice settings. Scope includes computations related to prescriptions and medication orders.
PRE-REQ: Admission to professional pharmacy program.

**PSCI 368. Pharmaceutics I. 3 Credits.**
Quantitative and theoretical principles of science applied to the design, preparation, evaluation, use, and therapeutic limitations of various pharmaceutical dosage forms. Biological and physiochemical principles that govern the absorption, distribution, metabolism, and excretion of drug dosage forms in humans.
PRE-REQ: Admission to professional pharmacy program.

**PSCI 369. Pharmaceutics II. 2 Credits.**
Quantitative and theoretical principles of science applied to the design, preparation, evaluation, use, and therapeutic limitations of various pharmaceutical dosage forms. Biological and physiochemical principles that govern the absorption of drug dosage forms.
PRE-REQ: Admission to professional pharmacy program.

**PSCI 410. Pharmaceutical Biotechnology. 2 Credits.**
Current and future biotechnologies in drug discovery, design, and production. Diagnostic technologies for individualized patient therapies.
PRE-REQ: Admission to professional pharmacy program. {Also offered for graduate credit - see PSCI 610.}

**PSCI 411. Principles of Pharmacokinetics and Pharmacodynamics. 3 Credits.**
Basic chemical, biochemical and pharmacological principles applied to the study of therapeutic agents; pharmacologic properties of drugs that affect their ADME and therapeutic effects.
PRE-REQ: **BIOC 460, BIOC 461, CHEM 341, CHEM 342** all with a grade of C or higher. {Also offered for graduate credit - see **PSCI 611**.}

**PSCI 412. Chemotherapeutic/Infectious Disease Pharmacodynamics. 3 Credits.**
Pharmacologic and therapeutic properties of chemotherapeutic agents and anti-infective drugs.
PRE-REQ: **PSCI 411** with a grade of C or higher. {Also offered for graduate credit - see **PSCI 612**.}

**PSCI 413. Endocrine/Respiratory/GI Pharmacodynamics. 3 Credits.**
The pharmacological properties and therapeutic uses of therapeutic agents for the treatment of disorders of the endocrine and GI systems, autonomic nervous system, and anti-inflammation agents, will be covered in this course.
PRE-REQ: **PHRM 340, PHRM 341, PSCI 411** all with a grade of C or higher. {Also offered for graduate credit - see **PSCI 613**.}

**PSCI 414. Cardiovascular Pharmacodynamics. 3 Credits.**
Pharmacologic properties of drugs used in the treatment of cardiovascular disorders.
PRE-REQ: **PHRM 340** and **PSCI 411** both with a grade of C or higher. {Also offered for graduate credit - see **PSCI 614**.}

**PSCI 415. Neuropsychiatry Pharmacodynamics. 3 Credits.**
Pharmacological properties of therapeutic agents used in the treatment of central nervous system disorders.
PRE-REQ: **PHRM 341** and **PSCI 411** both with a grade of C or higher. {Also offered for graduate credit – see **PSCI 615**.}

**PSCI 417. Pharmacogenomics. 2 Credits.**
This course provides students with a broad perspective on the emergence of pharmacogenomics as a new field and the potential role of pharmacogenomics in future clinical therapeutics and drug design.
PRE-REQ: Admission to professional pharmacy program. {Also offered for graduate credit - see **PSCI 617**.}

**PSCI 470. Pharmacokinetics. 3 Credits.**
Concepts and mathematical techniques for describing the time course of drugs in biological systems.
PRE-REQ: **PSCI 411** with a grade of C or higher. {Also offered for graduate credit - see **PSCI 670**.}

**Pharmacy Practice (PHRM)**

**PHRM 340. Pathophysiology I. 4 Credits.**
Comprehensive study of the normal and abnormal physiological processes and the mechanisms important to the understanding of pharmacology and drug therapy.
PRE-REQ: Admission to professional pharmacy program.

**PHRM 341. Pathophysiology II. 3 Credits.**
Normal and abnormal physiological processes and the mechanisms important to the understanding of pharmacology and drug therapy.
PRE-REQ: Admission to professional pharmacy program.

**PHRM 350. Introduction to Pharmacy Practice. 2 Credits.**
Issues related to pharmacy practice, patient medication counseling, retrieval of drug information, cultural competency, health literacy, pharmaceutical care plans, and evaluating adverse drug reactions/interactions are discussed.
PRE-REQ: Admission to professional pharmacy program.

**PHRM 351L. Pharmacy Practice Laboratory I. 2 Credits.**
Through hands on application, students will develop competence in pharmaceutical care, pharmacy calculations, prescription dispensing and consultation, and compounding nonsterile and sterile products.
PRE-REQ: Admission to professional pharmacy program.

**PHRM 352. Introduction to Health Care Systems. 2 Credits.**
Pharmacy students will be introduced to health professions, health care delivery systems, financing, access, quality, and economic issues.
PRE-REQ: Admission to professional pharmacy program.
PHRM 355. Introductory Pharmacy Practice Experience I: Introduction to Institutional Pharmacy Practice. 3 Credits.
IPPE I is designed to be an introduction to institution based pharmacy practice. This course consists of a 3 week and 120 hour, unpaid, supervised pharmacy practice experience in an institutional pharmacy setting and required reflections. Pass/Fail grading.
PRE-REQ: PSCI 367, 368, 369, 410, 411, 412, 470, PHRM 340, 341, 350, 351L, 352, MICRO 470 all with a grade of C or higher.

PHRM 400. Top Drugs I. 1 Credit.
Introduction to basic knowledge necessary for success in the professional pharmacy curriculum and in the practice of pharmacy.
PRE-REQ: PHRM 351L with a grade of C or higher.

PHRM 450. Self Care. 3 Credits.
Course designed to provide pharmacy students with the knowledge, skills, and practical tools necessary to provide self care recommendations to patients, physicians, nurses, and other allied health care professionals.
PRE-REQ: PHRM 340, PHRM 341 both with a grade of C or higher.

PHRM 452L. Pharmacy Practice Laboratory II. 2 Credits.
Through hands on application, students will develop competence in pharmaceutical care, pharmacy calculations, prescription dispensing and consultation, compounding nonsterile and sterile products, long term care, and self-care.
PRE-REQ: PHRM 351L with a grade of C or higher.

PHRM 455. Introductory Pharmacy Practice Experience II: Introduction to Community Pharmacy Practice. 4 Credits.
IPPE II is designed to be an introduction to community based pharmacy practice. This course consists of a 4 week, 160 hour, unpaid, supervised pharmacy practice experience in a community pharmacy setting and required reflections. Pass/Fail grading.
PRE-REQ: Successful completion of first professional year coursework, PHRM 400, PHRM 450, PHRM 452L, PHRM 565 all with a grade of C or higher.

PHRM 475. Pharmacy Practice Management. 3 Credits.
This course introduces students to management techniques applicable to the contemporary practice of pharmacy in community and institutional settings.
PRE-REQ: PHRM 350, PHRM 352, PHRM 452L all with a grade of C or higher.

PHRM 480. Drug Literature Evaluation. 3 Credits.
The goals of this course are to achieve a thorough understanding of the structure of the literature and its inherent strengths and weaknesses, such that the student may evaluate scientific studies and utilize the literature to support a point of view.
PRE-REQ: Admission to professional pharmacy program.

PHRM 500, Top Drugs II. 1 Credit.
Students will build on drug knowledge they have obtained from Phrm 400 to be successful in the practice of pharmacy.
PRE-REQ: PHRM 400 with a grade of C or higher.

PHRM 520. Special Populations. 3 Credits.
Focused on providing pharmaceutical care for a variety of populations including men, women, pediatric and geriatric patients.
PRE-REQ: PHRM 532, PHRM 537, PHRM 538 all with a grade of C or higher. {Also available for graduate credit - See PHRM 620.}

PHRM 532. Infectious Disease. 3 Credits.
This course is a clinical, patient-oriented approach to infectious disease. The instructors will review antimicrobial agents combined with specific infectious disease processes and therapies to help the students make appropriate judgments on infectious disease problems.
PRE-REQ: MICR 470, PSCI 412 both with a grade of C or higher. {Also offered for graduate credit - see PHRM 632.}
PHRM 534. Rheumatology/Endocrinology/Gastrointestinal. 3 Credits.
Pharmacotherapy of disorders involving the musculoskeletal, endocrine, and gastrointestinal systems.
PRE-REQ: PSCI 413 with a grade of C or higher.

PHRM 535. Hematology and Oncology. 3 Credits.
This course provides a framework for understanding the role molecular biology plays in the pathophysiology and treatment of the most prevalent oncologic and hematologic malignancies, as well as benign and drug-induced hematologic conditions. Students will apply evidence-based principles in assessing/monitoring appropriate therapy for these patients.
PRE-REQ: PSCI 410, PSCI 412 both with a grade of C or higher.

PHRM 536. Neurology & Psychiatry Pharmacotherapy. 3 Credits.
The course will focus on the principles, selection and management of pharmacotherapy for the major psychiatric and neurologic diseases. Learning methods will include face-to-face lecture, in-class discussion, small group activities, and case formulations.
PRE-REQ: PSCI 415 with a grade of C or higher. (Also offered for graduate credit - see PHRM 636.)

PHRM 537. Renal Disease/Fluid and Electrolytes. 2 Credits.
This course focuses on pathophysiology and pharmacotherapy of major renal diseases including fluid and electrolyte disorders, acid/base balance, and renal replacement therapy. Emphasis is placed upon application of knowledge to patient care situations and the mastery of pharmacotherapy.
PRE-REQ: PSCI 414 with a grade of C or higher.

PHRM 538. PTDI: Cardiovascular and Pulmonary Diseases. 4 Credits.
PRE-REQ: PSCI 413, PSCI 414 both with a grade of C or higher.

PHRM 540. Public Health for Pharmacists. 3 Credits.
Pharmacy students will be introduced to public health services, health disparities, emergency preparedness, epidemiology, behavioral health, health promotion, and global health.
PRE-REQ: PHRM 352 with a grade of C or higher.

PHRM 545L. Pharmacotherapy Laboratory. 1 Credit.
This is a problem-based and skills-based laboratory integrating the pathophysiology, pharmacology, and therapeutic aspects of various diseases in order to prepare learners to make sound therapeutic decisions and provide clinical rationale during the pharmacist's patient care process. The class activities are designed as a team-based approach.
PRE-REQ: PHRM 450, PHRM 532, PHRM 534, PHRM 538 all with a grade of C or higher, AND, CO-REQ: PHRM 536, PHRM 537.

PHRM 551L. Pharmacy Practice Laboratory III. 2 Credits.
This course focuses on pharmaceutical care, pharmacy calculations, prescription consultation, compounding nonsterile and sterile products, and disease state management.
PRE-REQ: PHRM 452L with a grade of C or higher.

PHRM 552L. Pharmacy Practice Laboratory IV. 2 Credits.
Coursework will assist Doctor of Pharmacy candidates to develop competence in recognizing, analyzing, and resolving drug related problems; providing accurate drug information and education; promoting public health and managing a patient oriented pharmacy practice.
CO-REQ: PHRM 580; PRE-REQ: PHRM 545L, PHRM 551L all with a grade of C or higher.

PHRM 560. Specialty Care Topics. 2 Credits.
This course will provide knowledge of specialty topics encountered in pharmacy practice.
PRE-REQ: PHRM 537, PHRM 538 both with a grade of C or higher.

PHRM 565. Pharmacy-Based Immunization Delivery. 1 Credit.
This course will provide knowledge of immunology, vaccine-preventable diseases, indications for vaccination, and implementation and maintenance of a pharmacy-based vaccination program.
PRE-REQ: MICR 470 with a grade of C or higher.
PHRM 570. Pharmacy Practice Improvement and Project Management. 2 Credits.
Students will gain a basic understanding of evidence-based medicine (EBM) and practice improvement/evaluation review techniques (PERT) in health care.
PRE-REQ: PHRM 475, PHRM 480 both with a grade of C or higher.

PHRM 572. Pharmacy Law and Ethics. 3 Credits.
Pharmaceutical jurisprudence, including state and federal laws and regulations concerned with the practice of pharmacy.
PRE-REQ: PHRM 350, PHRM 352, PHRM 452L all with a grade of C or higher.

PHRM 580. Pharmacotherapy Capstone. 3 Credits.
Using clinical practice guidelines, current scientific literature, and pharmacotherapy concepts, students will evaluate integrated patient case scenarios.
PRE-REQ: PHRM 532, PHRM 534, PHRM 535, PHRM 536, PHRM 537, PHRM 538, all with a grade of C or higher.

PHRM 581, 582, 583, 584, 585, 586, 587, 588, 589. Advanced Pharmacy Practice Experience, Rotations 1 through 9. 5 Credits each rotation. (Students will complete 8 of these rotations for a total of 40 credits.)
Experiential clinical training designed to integrate, apply, reinforce, and advance the knowledge, skills, attitudes and values developed through the other components of the curriculum. Pass/Fail grading.
PHARMACIST’S PATIENT CARE PROCESS

Pharmacists use a patient-centered approach in collaboration with other providers on the health care team to optimize patient health and medication outcomes. An essential first step is the establishment of a patient–pharmacist relationship that supports engagement and effective communication with patients, families, and caregivers throughout the process. In addition, at the core of the process, pharmacists continually collaborate, document, and communicate with physicians, other pharmacists, and other health care professionals in the provision of safe, effective, and coordinated care. This process is enhanced through the use of interoperable information technology systems that facilitate efficient and effective communication among all individuals involved in patient care. (Figure 1).

Using principles of evidence-based practice, pharmacists:

A. Collect

The pharmacist assures the collection of necessary subjective and objective information about the patient in order to understand the relevant medical/medication history and clinical status of the patient. Information may be gathered and verified from multiple sources including existing patient records, the patient, and other health care professionals. This process includes collecting:

• A current medication list and medication use history for prescription and nonprescription medications, herbal products, and other dietary supplements
• Relevant health data that may include medical history, health and wellness information, biometric test results, and physical assessment findings
• Patient lifestyle habits, preferences and beliefs, health and functional goals, and socioeconomic factors that affect access to medications and other aspects of care
B. Assess
The pharmacist assesses the information collected and analyzes the clinical effects of the patient’s therapy in the context of the patient’s overall health goals in order to identify and prioritize problems and achieve optimal care. This process includes assessing:

- Each medication for appropriateness, effectiveness, safety, and patient adherence
- Health and functional status, risk factors, health data, cultural factors, health literacy, and access to medications or other aspects of care
- Immunization status and the need for preventive care and other health care services, where appropriate

C. Plan
The pharmacist develops an individualized patient-centered care plan, in collaboration with other health care professionals and the patient or caregiver that is evidence-based and cost-effective. This process includes establishing a care plan that:

- Addresses medication-related problems and optimizes medication therapy
- Sets goals of therapy for achieving clinical outcomes in the context of the patient’s overall health care goals and access to care
- Engages the patient through education, empowerment, and self-management
- Supports care continuity, including follow-up and transitions of care as appropriate

D. Implement
The pharmacist implements the care plan in collaboration with other health care professionals and the patient or caregiver. During the process of implementing the care plan, the pharmacist:

- Addresses medication- and health-related problems and engages in preventive care strategies, including vaccine administration
- Initiates, modifies, discontinues, or administers medication therapy as authorized
- Provides education and self-management training to the patient or caregiver
- Contributes to coordination of care, including the referral or transition of the patient to another health care professional
- Schedules follow-up care as needed to achieve goals of therapy

E. Follow-up: Monitor and Evaluate
The pharmacist monitors and evaluates the effectiveness of the care plan and modifies the plan in collaboration with other health care professionals and the patient or caregiver as needed. This process includes the continuous monitoring and evaluation of:

- Medication appropriateness, effectiveness, and safety and patient adherence through available health data, biometric test results, and patient feedback
- Clinical endpoints that contribute to the patient’s overall health
- Outcomes of care, including progress toward or the achievement of goals of therapy

Information from PHARMACISTS' PATIENT CARE PROCESS • MAY 29, 2014
### NORTH DAKOTA STATE UNIVERSITY

**PROFESSIONAL PHARMACY CURRICULUM (PRE-REQS) 2019/2020**

*Note: An additional 6 credits of Professional Electives MUST be completed PRIOR to P4 Year*

#### P1 (39 credits)

<table>
<thead>
<tr>
<th>FALL 2019</th>
<th>Cr</th>
<th>SPRING 2020</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micr 470, Basic Immunology</td>
<td>3</td>
<td>PSci 369, Pharmaceutics II</td>
<td>2</td>
</tr>
<tr>
<td>PSci 367, Pharmaceutical Calculations</td>
<td>1</td>
<td>PSci 410/610, Pharmaceutical Biotechnology</td>
<td>2</td>
</tr>
<tr>
<td>PSci 368, Pharmaceutics I</td>
<td>3</td>
<td>PSci 412, Chemotherapeutic Agents (Oncology/ID) (PSCI 411)</td>
<td>3</td>
</tr>
<tr>
<td>PSci 411, Principles of Dynamics</td>
<td>3</td>
<td>PSci 470, Pharmacokinetics (PSCI 411)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 340, Pathophysiology I</td>
<td>4</td>
<td>Phrm 341, Pathophysiology II</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 350, Introduction to Pharmacy Prax</td>
<td>2</td>
<td>Phrm 351L, Pharmacy Practice Lab I</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 352, Introduction to Healthcare Systems</td>
<td>2</td>
<td>Phrm 480, Drug Literature Evaluation</td>
<td>3</td>
</tr>
</tbody>
</table>

**TOTAL** 18

**SUMMER 2019 - Phrm 355, Introductory Pharmacy Practice Experience (IPPE) I, 120 hours = 3 cr. * (All P1 classes)**

#### P2 (38 credits)

<table>
<thead>
<tr>
<th>FALL 2019</th>
<th>Cr</th>
<th>SPRING 2020</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSci 413, Endocrine/Resp/GI Dynamics (PHRM 340, 341, PSCI 411)</td>
<td>3</td>
<td>CHP 400, Interprofessional Health Care Practice (PHRM 355)</td>
<td>3</td>
</tr>
<tr>
<td>PSci 414, Cardiovascular Dynamics (PHRM 340, PSCI 411)</td>
<td>3</td>
<td>PSci 415, Neuro-Psych Dynamics (PHRM 341, PSCI 411)</td>
<td>3</td>
</tr>
<tr>
<td>PSci 417, Pharmacogenomics</td>
<td>2</td>
<td>Phrm 450, Self Care (PHRM 340, PHRM 341)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 400, Top Drugs I (PHRM 351L)</td>
<td>1</td>
<td>Phrm 534, Endocrine/Rheum/GI (PSCI 413)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 452L, Pharmacy Practice Lab II (PHRM 351L)</td>
<td>2</td>
<td>Phrm 538, Cardiovascular/Pulmonary (PSCI 413, PSCI 414)</td>
<td>4</td>
</tr>
<tr>
<td>Phrm 532/632, Infectious Disease (MICR 470, PSCI 412)</td>
<td>3</td>
<td>Phrm 565, Immunization (MICR 470)</td>
<td>1</td>
</tr>
<tr>
<td>Phrm 535, Hematology and Oncology (PSCI 410, PSCI 412)</td>
<td>3</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL** 17

**SUMMER 2019 - Phrm 455, IPPE II, 160 hours = 4 cr. * (P1 coursework + PHRM 400, 450, 452L, & 565)**

#### P3 (30 credits)

<table>
<thead>
<tr>
<th>FALL 2019</th>
<th>Cr</th>
<th>SPRING 2020</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phrm 475, Pharmacy Management (PHRM 350, 352, 452L)</td>
<td>3</td>
<td>Phrm 520, Special Populations (PHRM 532, 537, 538)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 500, Top Drugs II (PHRM 400)</td>
<td>1</td>
<td>Phrm 552L, Pharmacy Practice Lab IV (PHRM 551L and PHRM 580 co-requisites)</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 535, Hematology and Oncology (PSCI 410, PSCI 412)</td>
<td>3</td>
<td>Phrm 560, Specialty Care Topics (PHRM 537, PHRM 538)</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 536, Neuro-Psych (PSCI 415)</td>
<td>3</td>
<td>Phrm 570, Practice Improvement &amp; Proj. Mgmt (PHRM 475, PHRM 480)</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 537, Renal, Fluid &amp; Electrolytes (PSCI 414)</td>
<td>2</td>
<td>Phrm 572, Pharmacy Law and Ethics (PHRM 350, 352, 452L)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 540, Public Health (PHRM 352)</td>
<td>3</td>
<td>Phrm 580, Pharmacotherapy Capstone (PHRM 532, 534, 535, 536, 537, 538)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 545L, Pharmacotherapy Lab (PHRM 450, 532, 534, 538, Co-req PHRM 536 &amp; 537)</td>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Phrm 551L, Pharmacy Practice Lab III (PHRM 452L)</td>
<td>2</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**TOTAL** 18

#### P-4 (40 credits)

40 Week Advanced Pharmacy Practice Experience (APPE), Phrm 581 through 589, Rotations 1 through 9. Students will complete 8 of the 9 rotations. *

*Students will be assigned away from Fargo/Moorhead for all or part of IPPE/APPE experience*
EXPERIENTIAL EDUCATION PLACEMENT

Students in the pharmacy program will be assigned for experiences away from the Fargo-Moorhead community for extended periods of time for their experiential coursework (Introductory Pharmacy Practice Experience and Advanced Pharmacy Practice Experience). Students are expected to make sufficient financial and other preparations in advance of these experiences to allow them to successfully complete the experiential requirements. Students are responsible for housing, board, travel expenses and all other related expenses during these experiences.

Pharmacy students must register **annually** as a Student Intern with the North Dakota State Board of Pharmacy and must continuously hold valid licensure as a pharmacy intern in North Dakota for the duration of the professional program. Students must pay all ND Board internship fees to be eligible for the experiential education program. Students with experiential placement in states outside of North Dakota must also register and pay for an intern license in those states.

INTRODUCTORY AND ADVANCED PHARMACY PRACTICE EXPERIENTIAL EDUCATION

Introductory Pharmacy Practice Experience (IPPE) consists of a total of 300 hours throughout the P1 – P2 – P3 years. First year professional students will complete 120 hours of IPPE in an institutional pharmacy setting during the summer between their P1 and P2 year. Second year professional students will complete 160 hours of IPPE in a community pharmacy setting during the summer between their P2 and P3 year. The remaining required 20 hours consists of actual and simulated patient care experiences dispersed throughout the P1, P2, and P3 curriculum.

Advanced Pharmacy Practice Experience (APPE) is comprised of 8 five-week rotations during the fourth professional year. Five of the eight rotations are required rotations including; ambulatory care, acute care, institutional, community advanced, and rural health. The remaining three rotations are considered elective rotations and are chosen based on student personal and professional preferences.

PHARMACY REGULATIONS FOR EXPERIENTIAL EDUCATION

North Dakota

A student enrolled in the entry-level Pharm.D. program is required to register as a PHARMACY INTERN per North Dakota Administrative Code prior to the fall term of the first professional year. Registration is conducted at a time specified by the Board of Pharmacy in cooperation with the College of Health Professions. Students enrolled in the professional pharmacy curriculum are assessed $100 per year by the Board of Pharmacy for a maximum of four years. Pharmacy students must register annually as a Student Intern with the North Dakota State Board of Pharmacy and must continuously hold valid licensure as a pharmacy intern in North Dakota for the duration of the professional program.

The Pharm.D. degree provides a student 1600 hours of Advanced Pharmacy Practice Experience (APPE) toward North Dakota licensure. Experiential requirements within this program grant a student eligibility for North Dakota licensure examinations as a pharmacist immediately upon graduation. Although all eligibility requirements for North Dakota licensure are satisfied through hours received from the experiential program, students are encouraged to seek additional hours of internship experience by working during their free summer periods to enhance their learning throughout the professional program.
The North Dakota Pharmacy Practice Act allows a student to register as an intern with the Board of Pharmacy prior to beginning Pharm.D. coursework as long as the student has completed a year of college and is registered in the pre-pharmacy program. For more information concerning this and other internship program details, contact the Board Office as listed below.

Mark Hardy, Pharm.D., Executive Director
North Dakota Board of Pharmacy
1906 East Broadway Ave, Bismarck ND  58501
Phone:  (701) 328-9535;  Fax:  (701) 328-9536
Web Address:  www.nodakpharmacy.com

Minnesota

The following is a synopsis of the Minnesota Board of Pharmacy internship regulations. Emphasis is placed on pertinent differences that exist between North Dakota and Minnesota regulations. Questions regarding points not covered in this section should be directed to the executive director of the Minnesota Board of Pharmacy whose name, address and phone number is listed below.

Application for registration as a PHARMACY INTERN in Minnesota is available only as on-line application at their web site:  http://mn.gov/boards/pharmacy .

1. Students are eligible to register as a Minnesota pharmacy intern after successful completion of the first professional year of the pharmacy curriculum.

2. Students interning 240 hours of internship or more in the state of Minnesota are required to complete the Internship Competency Manual, available online at the Minnesota Board of Pharmacy website.

3. It is imperative that students register with and are issued an intern license through the Minnesota Board prior to beginning IPPE/internship experience (within the boundaries of the state of Minnesota), or credit will not be given for time accrued.

Cody Wiberg, Pharm.D., Executive Director
Minnesota State Board of Pharmacy
2829 SE University Ave., Suite 530
Minneapolis MN  55414-3251
Phone:  (651) 201-2825
Fax:  (612) 617-2262
Web address:  http://mn.gov/boards/pharmacy
POST GRADUATE RESIDENCY FAQs

What is a Pharmacy Residency?
A pharmacy residency is an organized, mentored, post-graduate training program. Typically, a residency is completed directly after graduating from a Doctor of Pharmacy program. However, some may choose to complete residency after practicing as a licensed pharmacist for a few years.

What will I learn in a residency program?
You will learn the knowledge and gain the experience required of pharmacists in various areas of practice, allowing you to further refine your clinical skills and bring your pharmacy-based problem solving abilities to a higher level. You will have the opportunity to learn from pharmacists who are experts in their area of pharmacy, many of which have achieved additional board certifications.

Why should I do a residency?
This is an opportunity to bridge the gap between being a pharmacy student one day, and the next day being a licensed pharmacist. You will have the opportunity to fortify your strengths, strengthen your weaknesses, and develop confidence in your abilities as an individual pharmacist. Other benefits include a competitive advantage in the job market, networking opportunities, career planning, and attendance/participation at local and national meetings. Many clinical positions are now requiring a residency.

What is the duration of residency program?
Each residency is typically one year. They start July 1 and conclude June 30 each year. Some residencies are offered in combination with a postgraduate degree (M.S., MBA). There are also some combination programs allowing you to complete both a PGY-1 and PGY-2 program over the course of 2 years. Additionally, there are non-traditional programs, where a pharmacist may complete their PGY-1 residency over two years.

Are all residency programs the same?
No. The type of residency you select will depend on your career objectives. Select a program that will prepare you for the type of job you eventually want to have. Some PGY-1 programs allow you to focus your residency based on your interest. In some cases, an individual may proceed with a second year of training to obtain this specialized experience. Examples of current residency types include:

- PGY-1 (“Pharmacy Practice” or “General”)
- Pediatrics
- Psychiatry
- Ambulatory Care
- Infectious Diseases
- Oncology
- Pharmacy Management
- Managed Care
- Critical Care

Are residencies only for hospital-based programs?
No. There are many ambulatory based programs. In fact, these programs are among the fastest growing type. Additionally, there are community pharmacy based programs.

Do I get paid during this program?
Yes. Most residencies pay roughly $40,000-$45,000 for the year. Some programs allow the opportunity to pick-up extra pharmacist shifts to earn extra pay. Most programs offer fringe benefits (e.g. health care, investment opportunities, etc.). Also, you may be eligible for deferring payment on your student loans during the program.
I'm not sure what type of program is right for me. What do you suggest?
The most common type of residency is a PGY-1 ("Pharmacy Practice" or "General") residency. It covers a broad spectrum of practice areas and patient types. Required experiences include acute care, ambulatory care, drug information, and practice management. In addition to these “core” elements, each program has various specialty areas to complete the training experience. Also, a research project (in collaboration with one of your preceptors) is completed during the residency year. Some programs include teaching/precepting opportunities in cooperation with an affiliated college of pharmacy. Finally, programs have various service ("staffing") requirements. Typically, staffing requires functioning as a pharmacist during evening and/or weekend hours.

How do I apply for a residency program?
PGY-1 and PGY-2 residencies (ASHP-accredited) require participation in the residency-matching program. This is a formal process that attempts to match applicants to their choice of programs and vice versa. Programs that are in the process of receiving accreditation may also participate in the residency-matching program. Check with the individual programs to verify their accreditation, and match participation status.

To participate in the Match for a position designated as a PGY-2 residency, an applicant must have already completed a PGY-1 residency, or currently be in training in a PGY-1 residency program that will be completed before the start of the PGY-2 residency.

Current PGY-1 residents who are interested in continuing their training in a PGY-2 residency offered by the same sponsor as the applicant's PGY-1 residency (e.g., the same or an affiliated organization) may be able to obtain the position through an Early Commitment Process. Applicants who are committed to a position in this manner do not need to register for or participate in the Match.

After I complete this residency experience, what is next?
You will have an advantage over many of your peers regarding employment opportunities. More “doors” will be open to you, and you will have more freedom in your career choice. Many employers value residency-trained pharmacists, and some jobs require residency experience. Graduates of residency programs go on to the following: pharmacist positions (staff, specialist, manager, etc.) in their area of training, faculty positions, specialty residency programs, or fellowship programs.

How do I find out more about residency programs and where they are located?
Here are a few good resources: [https://www.ashp.org/Professional-Development/Residency-Information](https://www.ashp.org/Professional-Development/Residency-Information), your college’s ASHP advisor, local pharmacy practice residency directors, and ASHP’s Midyear Clinical Meeting, which showcases virtually all of the ASHP-accredited programs.

For additional information, please view the following web sites for the NDSU Department of Pharmacy Practice:
[https://www.ndsu.edu/pharmacy/residency_programs/](https://www.ndsu.edu/pharmacy/residency_programs/)
[https://www.ndsu.edu/pharmacy/residency_programs/residency_checklist/](https://www.ndsu.edu/pharmacy/residency_programs/residency_checklist/)
PHARM.D. / MBA OPTION

The Master of Business Administration (MBA) Program at North Dakota State University is a non-thesis, concise, professional program for qualified students with undergraduate or graduate degrees in various fields. The program imparts an effective set of analytical skills in key areas of business - including management, marketing, accounting, finance, and information systems - designed to broaden career options and facilitate promotability. The NDSU MBA takes a generalist approach to business education while providing a wide variety of elective courses enabling students to pursue a particular area of interest. NDSU’s MBA Program is accredited by AACSB International - The Association to Advance Collegiate Schools of Business - the highest business program accreditation worldwide.

Additional foundation coursework is required. Because the MBA degree serves students from various disciplines, a set of foundation course requirements is needed to ensure adequate background preparation. Incoming students need approved undergraduate principles courses in each of the following foundation areas: Accounting, Economics, Management, Marketing, Statistics and Finance. Specifically these classes at NDSU are: ACCT 200 or 102, ECON 105, FIN 320, MGMT 320, MRKT 320, STAT 330. Based on previous coursework, some or all of these courses may be waived. Foundation requirements may also be met by completing approved online self-paced course modules. If you are interested in pursuing this option, please contact Paul Brown at 701-231-7681 or Paul.Brown@ndsu.edu. Note: foundation course requirements do not have to be completed prior to MBA program admission.

Students must be admitted to, and in good standing with, the Pharm.D. program and admitted to the MBA program in order to pursue the MBA. MBA application requirements and other details can be viewed at www.ndsu.edu/business/graduate/mba/ and discussed with MBA Coordinator Paul Brown at 701-231-7681 or Paul.Brown@ndsu.edu. Interested students may also see Dr. Naughton, Senior Associate Dean, College of Health Professions, for more information.

The MBA coursework can be completed in one calendar year following completion of the Pharm.D. degree. Alternatively, a student may take MBA courses anytime after gaining admission to the Graduate School and MBA program, with up to 7 years to complete the program. Over half of NDSU MBA students are part-time, taking 1-4 two-credit courses per semester while working full-time in their professions. Once enrolled in the MBA Program, students should expect to pay graduate course fees and graduate school tuition rates for each MBA course being taken. There is also a differential tuition cost for MBA courses, above the base graduate tuition charged by NDSU. Graduate courses do not count towards the undergraduate tuition cap.

NOTE: Professional pharmacy students who are enrolled as a full or part time student at NDSU, and who are pursuing a joint degree with the Doctor of Pharmacy program, must complete all required pharmacy training as required by the Doctor of Pharmacy program (including, but not limited to, training on HIPAA & Privacy, HIPAA & Security, Blood-borne Pathogens, Preventing Medicare Fraud, Waste and Abuse, and Combating Methamphetamine Abuse) regardless of whether they are completing pharmacy academic or experiential credits in a given semester. These trainings are required until such time as the student graduates with a Doctor of Pharmacy degree or officially disenrolls in the Doctor of Pharmacy program.
The MBA program is a non-thesis professional degree, comprised of eight (2-credit) required courses and seven (two-credit) graduate-level elective courses, for a total of 30 credits.

<table>
<thead>
<tr>
<th>FALL</th>
<th>Credits</th>
<th>SPRING</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>* MBA 701 - Strategic Cost Management</td>
<td>2</td>
<td>* MBA 702 – Advanced Financial Management</td>
<td>2</td>
</tr>
<tr>
<td>* MBA 703 – Advanced Organizational Behavior</td>
<td>2</td>
<td>* MBA 706 – Managing Information Resources</td>
<td>2</td>
</tr>
<tr>
<td>* MBA 704 – Supply Chain and Operations Management</td>
<td>2</td>
<td>* MBA 707 – Microeconomics for Managers</td>
<td>2</td>
</tr>
<tr>
<td>* MBA 705 – Strategic Marketing Management</td>
<td>2</td>
<td>* MBA 708 – Advanced Strategic Management</td>
<td>2</td>
</tr>
<tr>
<td>Three 2-Credit Electives **</td>
<td>6</td>
<td>Four 2-Credit Elective **</td>
<td>8</td>
</tr>
</tbody>
</table>

* Indicates required courses
** Refer to the College of Business for list of approved electives.

** REQUIRED COURSES **

MBA Core courses are 2 credits each
With the exception of MBA 708, prerequisites for these courses are: admission into the MBA program or permission of the MBA program coordinator or MBA program director.

MBA 701 - Strategic Cost Management
This course introduces managerial accounting for decision making and control in profit-directed organizations. It also defines product costing, budgetary control systems, and performance evaluation systems for planning, coordinating, and monitoring the performance of a business. Students will understand how modern organizations use managerial accounting to effectively plan and control operations and make sound business decisions.

MBA 702 - Advanced Financial Management
In-depth coverage of concepts and decision-making tools in financial analysis, cost of capital, capital structure, capital budgeting, and dividend policy through analyzing competitive situations and developing strategic views of key financial dimensions.

MBA 703 - Advanced Organizational Behavior
This course is intended to introduce you to the essentials of the most important organizational behavior concepts and principles through instruction, reading, cases, and experience. The course focuses on practical and useful information and skills which will aid you in managing and working in an organization. The course will use evidence-based research to examine and explore the relationship between individual, team, and organizational characteristics and individual outcomes.

MBA 704 - Supply Chain and Operations Management (2 credits)
Study of analysis and decision-making directed at creating, producing, and bringing goods and services to market under uncertain business conditions. Includes techniques from project management, supply chain management, quality management, inventory management, forecasting, and production planning.

MBA 705 - Strategic Marketing Management (2 credits)
Focus on the conceptual framework, managerial approach and analysis of deploying marketing resources to communicate and deliver value.
MBA 706 - Managing Information Resources (2 credits)
Managerial perspectives on the role of information resources in supporting organizational functions including the strategic use of information systems; use, design, and evaluation of information resources; use of information technologies for managerial decision making, and IT support of different business functions.

MBA 707 - Microeconomics for Managers (2 credits)
This course will provide students with an understanding of microeconomic tools for managerial decision making. Students will learn how to use an understanding of economics to make better value maximization decisions for their company. Course topics will include supply/demand principles, demand elasticity and estimation, production and costs, market structure, strategic interaction, complex pricing problems, and decisions under risk.

MBA 708 - Advanced Strategic Management (2 credits)
This course teaches from the perspective of top management, integrating functional business expertise into analysis of the firm’s internal resources and capabilities with analysis of the external environment in which the firm competes, to enable formulation and implementation of company strategy. Prerequisites: MBA 701, MBA 702, MBA 703, MBA 704, MBA 705, MBA 706.
MASTER OF PUBLIC HEALTH PROGRAM

The Mission of the NDSU MPH Program is to promote health and well-being in diverse populations with an emphasis on American Indian and other underserved populations by providing educational, practical, and research opportunities for public health professionals.

Public health is defined as the practice of helping members of society live healthier, longer lives. More specifically, public health focuses on improving the general health of communities through efforts to monitor the spread of diseases, initiatives (both clinical and policy-oriented) to prevent disease and disability, and by promoting healthy lifestyles through education and community engagement. Public health is both an art and a science. It is practiced by inter-professional teams whose members’ training spans a wide array of academic and vocational fields.

Of particular importance to public health in our state is determining how to meet the challenges of change and diversity within rural areas. Rural health solutions are essential to the well-being of North Dakota and to other areas of the nation and the world. North Dakota is an ideal location for rural public health research in addition to the application of practical solutions to health improvement for rural communities. Public health is an interdisciplinary field; it is common for many people to gain competencies and/or training in a related field (medicine, nursing, pharmacy, business, engineering, etc.) and subsequently move into public health as a matter of vocation or occupation. The MPH degree is uniquely designed to accommodate the needs to these individuals. It blends theory and practical knowledge across a wide array of disciplines, and is the “degree of choice” among practitioners in the field.

There are three specializations to choose from within the MPH degree at NDSU. The specializations of Community Health Sciences or the Management of Infectious Diseases are the most suitable for most pharmacists, as they prepare health professionals to integrate public health initiatives and policies within traditional medical models. It is designed to provide pharmacists and other health professionals with a better understanding of their diverse roles in public health.

For more information on the NDSU MPH program you can visit www.ndsu.edu/publichealth or contact the Academic Coordinator/Lecturer, Stefanie Meyer, at Stefanie.meyer@ndsu.edu.

PHARM.D./MPH DUAL DEGREE OPTION

The Master of Public Health (MPH) offers diverse tracks in public health that build upon the strengths of campus to meet the practical needs of the public and health care practitioners who serve it. Specializations at NDSU include community health sciences, management of infectious diseases, and American Indian public health.

The MPH degree consists of 42 credits and can be completed in two years as a full time graduate student. Pharm.D. students are able to complete a Pharm.D./MPH dual degree in as little as one extra year of study. Pharm.D. students who are in good academic standing are eligible to apply for the Pharm.D./MPH program through the graduate school during their P2 year.

Why Public Health?
Practitioners in our region have limited opportunities for advanced, practical public health training that focuses on the unique challenges facing this largely rural area that encompasses North Dakota and other Northern Plains states. There are many underserved populations living in the region that would benefit from expanded public health interventions. For example, the American Indian communities have typically been underserved and significant health disparities between this population and others have resulted. Overall, there is much to be gained from greater collaboration within the Northern Great Plains, and the education of public health professionals is a natural starting point to facilitate that collaboration.
Is the MPH accredited?
Yes. The Council on Education for Public Health (CEPH) at its October 6-7, 2016, meeting acted to accredit the Master of Public Health Program at North Dakota State University for a five-year term, extending to December 31, 2021.

What are the admission requirements for the Pharm.D./MPH dual degree?
You must be enrolled in the Pharm.D. program and in good academic standing. In addition to graduate school requirements (with the exception of the GRE; the PCAT score can be used instead for Pharm.D. students), the MPH Admissions Committee may invite selected applicants for an interview.

How do I apply to the Pharm.D./MPH dual degree?
You apply online during the spring semester of your P2 year through the Graduate School at [http://ndusndsugrad.askadmissions.net/emtinterestpage.aspx?ip=application](http://ndusndsugrad.askadmissions.net/emtinterestpage.aspx?ip=application) and choose “Public Health.” If you are a P1 student and wish to get started early, apply online at the above website but choose “Non-Degree” in the drop down box during the spring semester of your P1 year. This will allow you to take PHRM 632 for Graduate credit. Up to nine graduate credits can be taken as a non-degree student.

When can I start the MPH program?
Applications are reviewed each year beginning March through May for a fall semester start. You may also take up to nine graduate credits as a non-degree seeking student with permission of the instructor.

How much does it cost for MPH courses?
Tuition and fees for MPH coursework can be found here:
[www.ndsu.edu/onestop/accounts/tuition/graduate_tuition_fall_2018_spring_summer_2019/](http://www.ndsu.edu/onestop/accounts/tuition/graduate_tuition_fall_2018_spring_summer_2019/)

Are there scholarships available?
Yes. Express Scripts Scholars Program offers scholarships for Pharm.D. dual degree students. The program provides four (4) $10,000 scholarships nationally each year to enrolled dual degree students. The awarded students are given $2,500 per semester for four consecutive semesters, totaling $10,000 over two years. For application instructions, please contact: ExpressScriptsScholars@aacc.org.

The College of Health Professions has a limited number of scholarships and awards available for assistance to students. Applications for scholarships and awards are available February 1 of each calendar year on the college web page, [www.ndsu.edu/healthprofessions](http://www.ndsu.edu/healthprofessions). Deadlines vary.

NOTE: Specific information related to criteria for selection of scholarship recipients is available in the Office of Development in Sudro Hall 120.

When are MPH courses offered?
MPH core courses are generally offered in the evening to accommodate students who work. These courses are only offered in the Fall and Spring semesters. There are no summer core courses, although the MPH practicum may be completed during summer. Current students are encouraged to talk with their faculty advisors for the most up-to-date information on course offerings.

Does the MPH program accommodate distance learners?
MPH students can take their courses on campus at NDSU or off-campus through live video broadcasts of classes (IVN).

Since I will not enroll in Phrm 555 IPPE III or Phrm 552L in the P3/Public Health year, do I still need to complete the required online trainings (e.g. HIPAA, HIPAA Security, NDSU Bloodborne Pathogen, Medicare Fraud, Waste & Abuse, Preventing Methamphetamine Abuse, etc.)?
Yes. You will still need to complete the required trainings in the fall of your P3/Public Health year. In addition, you will need to be registered as a Pharmacy Intern in the state of North Dakota.
Can I take courses in more than one area of specialization?
Yes, there is a list of electives in each specialization that are available to all MPH students. You are welcome to take additional credits if you are interested.

Can I change to a different specialization track after starting the MPH program?
Yes. You must be in good academic standing within the MPH program and the admissions committee for the specialization you wish to enter must agree that your background is sufficient for the transition. Contact the Academic Coordinator/Lecturer if interested.

Where can I do my Practicum? Can the Practicum be done in another country?
NDMPH has secured Practicum affiliation agreements with local, national, and global sites in public health. Students can also request a Practicum site without an existing affiliation agreement, but this must be done a minimum of 6 months in advance of the Practicum start date to ensure that a working agreement can be established. Practicums can be done in other countries as long as an acceptable agreement can be established beforehand.

What are the hardware and software requirements for off-campus students?
The ability of a student to succeed in a distance education class depends on his or her ability to understand both the course structure and the associated technology. Informing students of what skills and technology are needed for distance education allows them the opportunity to self-evaluate their capability to succeed in the course.

At the time of admission to the program, students are required to ensure that their computers meet the minimum hardware and software requirements described below. Registration for the course constitutes the student’s understanding and acceptance of the requirements necessary to participate in the course.

Minimum Hardware requirements:
- Working webcam & headset
- 4GB RAM
- 1 GB available storage space
- Broadband connection of ≥ 1 Mbps download and 512 Kbps upload
  - Connection speed can be tested at:

Minimum Software requirements:
- Windows 7 Basic (and higher) OR Macintosh OSX 10.7.4 (and higher)
- Microsoft Office
  - Available for NDSU students for free at: [https://www.ndsu.edu/its/software/software_licensing_program/](https://www.ndsu.edu/its/software/software_licensing_program/)
- Adobe Flash Player (newest version)
  - Available at: [http://get.adobe.com/flashplayer/](http://get.adobe.com/flashplayer/)
- Mozilla Firefox (newest version)
  - Additional course-specific software

A successful connection test is required at least 2 business days before the first class meeting date and each new network/location also needs to be tested before it can be used to connect to a class meeting (e.g. if you are traveling and are using a different computer or internet connection).
NOTE: Professional pharmacy students who are enrolled as a full or part time student at NDSU, and who are pursuing a joint degree with the Doctor of Pharmacy program, must complete all required pharmacy training as required by the Doctor of Pharmacy program (including, but not limited to, training on HIPAA & Privacy, HIPAA & Security, Blood-borne Pathogens, Preventing Medicare Fraud, Waste and Abuse, and Combating Methamphetamine Abuse) regardless of whether they are completing pharmacy academic or experiential credits in a given semester. These trainings are required until such time as the student graduates with a Doctor of Pharmacy degree or officially dis-enrolls in the Doctor of Pharmacy program.

MPH PROGRAM REQUIREMENTS

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 704: Public Health Management and Policy</td>
<td>3</td>
</tr>
<tr>
<td>PH 720: Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>PH 731: Biostatistics</td>
<td>3</td>
</tr>
<tr>
<td>PH 741: Social and Behavioral Sciences</td>
<td>3</td>
</tr>
<tr>
<td>PH 745: Community Health Leadership</td>
<td>3</td>
</tr>
<tr>
<td>PH 751: Epidemiology</td>
<td>3</td>
</tr>
</tbody>
</table>

18 credits

<table>
<thead>
<tr>
<th>Additional Required Program Components</th>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master's Paper</td>
<td>PH 789, Paper</td>
<td>3</td>
</tr>
<tr>
<td>Practicum/Internship</td>
<td>PH 794, Practicum</td>
<td>3</td>
</tr>
</tbody>
</table>

6 credits

SPECIALIZATIONS

Community Health Sciences

The Community Health Sciences specialization of NDSU's Master of Public Health program prepares leaders in public health to use evidence to improve population health at the community level. The Community Health Sciences specialization is appropriate for healthcare professionals, educators, professionals in Extension education and human and social services. The skills taught in this specialization will prepare students to determine health needs in the community by collecting and analyzing data as well as using data to build programs to effectively improve health at the community level. The specialization explores contemporary health promotion in conjunction with inter-professional health teams and health-care systems for individuals, groups, organizations and communities using a policy, systems and environmental approach.

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>NURS 715: Advanced Community Assessment</td>
<td>3</td>
</tr>
<tr>
<td>PH 700: Preventing and Managing Chronic Illness</td>
<td>3</td>
</tr>
<tr>
<td>PH 725: Promoting Health Through Policy, Systems, and Environment</td>
<td>3</td>
</tr>
<tr>
<td>PH 755: Integrating Primary Care and Public Health</td>
<td>3</td>
</tr>
</tbody>
</table>

12 credits

Dual degree students use PHRM 620 and PHRM 632 as their MPH electives.
### P1 (39 credits) 2019-2020

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micr 470, Basic Immunology</td>
<td>3</td>
<td>PSci 369, Pharmaceutics II</td>
<td>2</td>
</tr>
<tr>
<td>PSci 367, Pharmaceutical Calculations</td>
<td>1</td>
<td>PSci 410/610 Pharmaceutical Biotechnology</td>
<td>2</td>
</tr>
<tr>
<td>PSci 368, Pharmaceutics I</td>
<td>3</td>
<td>PSci 412 Chemotherapeutic Agents (Oncology/ID)</td>
<td>3</td>
</tr>
<tr>
<td>PSci 411, Principles of Dynamics</td>
<td>3</td>
<td>PSci 470 Pharmacokinetics</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 340, Pathophysiology I</td>
<td>4</td>
<td>Phrm 341 Pathophysiology II</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 350, Introduction to Pharmacy Practice</td>
<td>2</td>
<td>Phrm 351L, Pharmacy Practice Lab I</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 352, Introduction to Healthcare Systems</td>
<td>2</td>
<td>Phrm 480, Drug Literature Evaluation</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>18</td>
<td><strong>TOTAL</strong></td>
<td>18</td>
</tr>
</tbody>
</table>

**SUMMER:** Phrm 355, Introductory Pharmacy Practice Experience (IPPE) I, 120 hours = 3 cr. *

### P2 (38 credits) 2019-2020

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSci 413, Endocrine/Resp/GI Dynamics</td>
<td>3</td>
<td>CHP 400, Interprofessional Health Care Practice</td>
<td>3</td>
</tr>
<tr>
<td>PSci 414, Cardiovascular Dynamics</td>
<td>3</td>
<td>PSci 415, Neuro-Psych Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>PSci 417, Pharmacogenomics</td>
<td>2</td>
<td>Phrm 450, Self Care</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 400, Top Drugs I</td>
<td>1</td>
<td>Phrm 534, Endocrine/Rheum/GI</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 452L, Pharmacy Practice Lab I</td>
<td>2</td>
<td>Phrm 538, Cardiovascular / Pulmonary</td>
<td>4</td>
</tr>
<tr>
<td>Phrm 535, Hematology and Oncology</td>
<td>3</td>
<td>Phrm 565, Immunizations</td>
<td>1</td>
</tr>
<tr>
<td>Phrm 632, Infectious Disease *</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Elective for MPH)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>17</td>
<td><strong>TOTAL</strong></td>
<td>17</td>
</tr>
</tbody>
</table>

**SUMMER:** Phrm 455, IPPE II, 160 hours = 4 cr. *

### P3 2019-2020 / PUBLIC HEALTH – First Year (29 credits)

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phrm 475, Pharmacy Management</td>
<td>3</td>
<td>Phrm 570, Practice Improvement &amp; Proj. Mgmt</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 535, Hematology and Oncology</td>
<td>3</td>
<td>PH 700, Preventing and Managing Chronic Illness (Required for Community Health Sciences Track – offered every other year)</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 536, Neuro-Psych</td>
<td>3</td>
<td>PH 720, Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>NURS 715: Advanced Community Assessment (Required for Community Health Sciences Track)</td>
<td>3</td>
<td>PH 745, Community Health Leadership</td>
<td>3</td>
</tr>
<tr>
<td>PH 731, Biostatistics</td>
<td>3</td>
<td>PH 751, Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PH 741, Social &amp; Behavioral Sciences in Public Health</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>18</td>
<td><strong>TOTAL</strong></td>
<td>14</td>
</tr>
</tbody>
</table>
Up to 6 credits will count towards the Pharm.D. degree AND MPH degree if taken at the 600 level

**SPECIALIZATIONS continued**

**Management of Infectious Diseases**

Public health professionals face increasing demands to diagnose, prevent and control problems arising from infectious diseases. The Management of Infectious Diseases specialization of NDSU’s Master of Public Health program is designed to give students the knowledge and expertise required for a successful career in this important area. This track may be of particular benefit in helping students who are interested in working with clinical teams in the management of infectious diseases, and assume leadership roles in their institutions in the areas of vaccination and antimicrobial stewardship.

Students in this specialization can tailor the program to suit their interests and professional goals by selecting from a variety of learning opportunities. They include disease diagnosis and detection, prophylaxis and vaccinology, therapeutics and antibiotic resistance, antimicrobial stewardship, prevention of disease spread in hospitals or by vectors, public health policy and emergency responses to emerging diseases and biosecurity threats. In all areas, special attention is paid to the application of modern technologies and epidemiologic skills.
## Management of Infectious Diseases:

<table>
<thead>
<tr>
<th>Course Name</th>
<th>Credits</th>
</tr>
</thead>
<tbody>
<tr>
<td>PH 735: Principles of Infectious Disease Management I</td>
<td>3</td>
</tr>
<tr>
<td>PH 736: Principles of Infectious Disease Management II</td>
<td>3</td>
</tr>
<tr>
<td>PH 752: Advanced Topics in Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>Ph 755: Integrating Primary Care and Public Health</td>
<td>3</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>12 credits</strong></td>
</tr>
</tbody>
</table>

Dual degree students use PHRM 620 and PHRM 632 as their MPH electives.

### PHARM.D./MPH – MANAGEMENT OF INFECTIOUS DISEASES

#### DUAL DEGREE CURRICULUM

*Pharmacy Curriculum for 2019-2020*

#### P1 (39 credits) 2019-2020

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Micr 470, Basic Immunology</td>
<td>3</td>
<td>PSci 369, Pharmaceutics II</td>
<td>2</td>
</tr>
<tr>
<td>PSci 367, Pharmaceutical Calculations</td>
<td>1</td>
<td>PSci 410/610 Pharmaceutical Biotechnology</td>
<td>2</td>
</tr>
<tr>
<td>PSci 368, Pharmaceutics I</td>
<td>3</td>
<td>PSci 412 Chemotherapeutic Agents (Oncology/ID)</td>
<td>3</td>
</tr>
<tr>
<td>PSci 411, Principles of Dynamics</td>
<td>3</td>
<td>PSci 470 Pharmacokinetics</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 340, Pathophysiology I</td>
<td>4</td>
<td>Phrm 341 Pathophysiology II</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 350, Introduction to Pharmacy Practice</td>
<td>2</td>
<td>Phrm 351L, Pharmacy Practice Lab I</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 352, Introduction to Healthcare Systems</td>
<td>2</td>
<td>Phrm 480, Drug Literature Evaluation</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
<td><strong>TOTAL</strong></td>
<td><strong>18</strong></td>
</tr>
</tbody>
</table>

**SUMMER:** Phrm 355, Introductory Pharmacy Practice Experience (IPPE) I, 120 hours = 3 cr. *

#### P2 (38 credits) 2019-2020

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>PSci 413, Endocrine/Resp/GI Dynamics</td>
<td>3</td>
<td>CHP 400, Interprofessional Health Care Practice</td>
<td>3</td>
</tr>
<tr>
<td>PSci 414, Cardiovascular Dynamics</td>
<td>3</td>
<td>PSci 415, Neuro-Psych Dynamics</td>
<td>3</td>
</tr>
<tr>
<td>PSci 417, Pharmacogenomics</td>
<td>2</td>
<td>Phrm 450, Self Care</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 400, Top Drugs I</td>
<td>1</td>
<td>Phrm 534, Endocrine/Rheum/GI</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 452L, Pharmacy Practice Lab I</td>
<td>2</td>
<td>Phrm 538, Cardiovascular / Pulmonary</td>
<td>4</td>
</tr>
<tr>
<td>Phrm 535, Hematology and Oncology</td>
<td>3</td>
<td>Phrm 565, Immunizations</td>
<td>1</td>
</tr>
<tr>
<td>Phrm 632, Infectious Disease ©</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>(Elective for MPH)</em></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td><strong>17</strong></td>
<td><strong>TOTAL</strong></td>
<td><strong>17</strong></td>
</tr>
</tbody>
</table>

**SUMMER:** Phrm 455, IPPE II, 160 hours = 4 cr. *
### P3 2019-2020 / PUBLIC HEALTH – First Year (29 credits)

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phrm 475, Pharmacy Management</td>
<td>3</td>
<td>Phrm 570, Practice Improvement &amp; Proj. Mgmt</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 535, Hematology and Oncology</td>
<td>3</td>
<td>PH 720, Environmental Health</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 536, Neuro-Psych</td>
<td>3</td>
<td>PH 736, Principles of Infectious Diseases II</td>
<td>3</td>
</tr>
<tr>
<td>(Required for Management of Infectious Diseases Track)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PH 704, Public Health Management and Policy</td>
<td>3</td>
<td>PH 745, Community Health Leadership</td>
<td>3</td>
</tr>
<tr>
<td>PH 731, Biostatistics</td>
<td>3</td>
<td>PH 751, Epidemiology</td>
<td>3</td>
</tr>
<tr>
<td>PH 735, Principles of Infectious Diseases I</td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>(Required for Management of Infectious Diseases Track)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>18</td>
<td><strong>TOTAL</strong></td>
<td>14</td>
</tr>
</tbody>
</table>

### P3 2019-2020 / PUBLIC HEALTH – Second Year (28 credits)

<table>
<thead>
<tr>
<th>FALL</th>
<th>Cr</th>
<th>SPRING</th>
<th>Cr</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phrm 500, Top Drugs II</td>
<td>1</td>
<td>Phrm 552L, Pharmacy Practice Lab IV</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 537, Renal, Fluid &amp; Electrolytes</td>
<td>2</td>
<td>Phrm 560, Specialty Care Topics</td>
<td>2</td>
</tr>
<tr>
<td>Phrm 545L, Pharmacotherapy Lab</td>
<td>1</td>
<td>Phrm 572, Pharmacy Law and Ethics</td>
<td>3</td>
</tr>
<tr>
<td>Phrm 551L, Pharmacy Practice Lab III</td>
<td>2</td>
<td>Phrm 580, Pharmacotherapy Capstone</td>
<td>3</td>
</tr>
<tr>
<td>PH 741, Social &amp; Behavioral Sciences in Public Health</td>
<td>3</td>
<td>Phrm 620, Special Populations <em>(Elective for MPH)</em></td>
<td>3</td>
</tr>
<tr>
<td>PH 755, Integrating Primary Care and Public Health (Required for MID Track)</td>
<td>3</td>
<td>PH 752, Advanced Topics in Epidemiology (Required for MID Track)</td>
<td>3</td>
</tr>
<tr>
<td><strong>TOTAL</strong></td>
<td>12</td>
<td><strong>TOTAL</strong></td>
<td>16</td>
</tr>
</tbody>
</table>

* Up to 6 credits will count towards the Pharm.D. degree **AND** MPH degree if taken at the 600 level

### P4 (40 credits) * APPE – Phrm 581-582-583-584-585-586-587-588-589 (you would take eight of the nine)

**SUMMER SEMESTER:**
PH 794 Public Health Practicum, 5 cr. (5 weeks – 200 hours) **Counts towards 5 credits APPE if taken P4 year**

**NOTE:** If you don’t take PH 794 and Phrm 595, then you **MUST** take 40 credits of APPE

PH 789, Paper (must take during final public health semester or a semester after – this is the culminating experience), 3 cr.

* Students will be assigned away from Fargo/Moorhead for all or part of IPPE/APPE experiences
**PHARM.D./PH.D. DUAL DEGREE OPTION**

**Purpose**

The entry level curriculum leading to the Pharm.D. degree requires a minimum of six years of study. Up to 76 semester hours are required in the pre-professional curriculum. Admission to the professional program is competitive, based upon successful pre-pharmacy academic performance and available positions in each class. After successful completion of 76 semester hours, interviews, and the Pharmacy College Admission Test (PCAT), students are admitted to a four-year professional program.

The Department of Pharmaceutical Sciences, one of six academic departments of the College of Health Professions, subscribes to the missions of the College and of North Dakota State University in the provision of Teaching, Research, and Service. The Department provides instruction in disciplines applicable to science. The faculty design and conduct research in the natural and biological sciences, as well as mentor graduate and Professional students in advanced concepts of pharmaceutical science and in the process of scientific inquiry.

NDSU offers both the MS and Ph.D. degrees in Pharmaceutical Sciences. The graduate program emphasizes both research and teaching excellence. The doctor of philosophy degree is awarded in recognition of high scholarly achievement as evidenced by a period of successful study, the satisfactory completion of examinations and the development of an acceptable dissertation project covering some significant aspect of a major field of learning and research. After successful completion of a Ph.D. degree program, students have had a high level of success gaining highly desirable employment in academia, industry and governmental agencies.

The dual program (Pharm.D./Ph.D.) is designed to provide an opportunity for outstanding professional students in the Pharmacy Program at North Dakota State University obtain research experience and a Doctor of Philosophy degree in the Department of Pharmaceutical Sciences.

It is proposed that this can be accomplished with an additional three years of study and research placed between the second and the third years of the four-year professional program.

It is believed that the combination of the Pharm.D. and Ph.D. degrees will greatly enhance the student’s research background, critical thinking skills, and marketability for leadership positions within the profession of Pharmacy in academic, government, and industrial environments.

**Summer Research Experience**

During the summer between the P1 and P2 years, up to six students per year will be allowed into an introductory research experience phase of the Pharm.D./Ph.D. program and will spend twelve weeks rotating throughout these three research laboratories. A summer stipend will be provided for each participating student in return for a 20 hour/week commitment (These funds are to be obtained from the College’s differential tuition funds).

**Admission**

Students in the Doctor of Pharmacy program will make an application to the Department of Pharmaceutical Sciences by December 20th at the end of the fall term of their second year (P2) in the program for acceptance into the Pharm.D./Ph.D. program. They should have a cumulative GPA of 3.0 or above. At the same time, an application to the graduate school should also be made. The GRE should also be taken by the end of this semester. Pharm.D./Ph.D. applications will be considered by the Department as for all graduate students.

**Course requirements during the professional program**

The Pharm.D. curriculum is unchanged. In the fall semester of the P1 year, a faculty member(s) will make the students aware of the Pharm.D./Ph.D. option, and briefly outline the program.
The Ph.D. Graduate Dissertation Years (i.e. G1, G2, G3)

Students will receive a monthly stipend, and tuition waiver during Ph.D. graduate year 1 (G1), year 2 (G2) and year 3 (G3). For this time period the students are full-time graduate students in the Department, subject to the same expectations (e.g. seminar participation, 6 credits of PSCI 790, year-round study, etc.). During the three graduate years, the students will be required to complete STAT 725 (3 cr), BIOC 701 (4 cr) and BIOC 702 (4 cr). In addition, if interested, students may take other 700-level courses available in the department and university. In addition to didactic credits, students will take 1 credit Seminar (PSCI 790) in the fall and the Spring semesters of each of the three graduate years. Students will also be required to take 60 thesis research credits (PSCI 799) during three graduate years.

NOTE: Professional pharmacy students who are enrolled as a full or part time student at NDSU, and who are pursuing a joint degree with the Doctor of Pharmacy program, must complete all required pharmacy training as required by the Doctor of Pharmacy program (including, but not limited to, training on HIPAA & Privacy, HIPAA & Security, Blood-borne Pathogens, Preventing Medicare Fraud, Waste and Abuse, and Combating Methamphetamine Abuse) regardless of whether they are completing pharmacy academic or experiential credits in a given semester. These trainings are required until such time as the student graduates with a Doctor of Pharmacy degree or officially dis-enrolls in the Doctor of Pharmacy program.

The Clinical Years (P3 & P4)

For the final two years of the professional program, dual degree students will receive a waiver of NDSU base tuition and pharmacy differential tuition. No changes in the didactic coursework of the P3 year are proposed.

Program requirements for the participants

Once accepted into the dual degree program (i.e. the G1 year and beyond), the student is considered to be a full-time graduate student in the Department of Pharmaceutical Sciences. They must maintain a GPA of 3.0 or above.

Ph.D. Summary: 12 credits of 600 and at least 18 out of 21 suggested credits of 700=30 didactic credits, with 6 credits seminar and 60 credits dissertation gives a total of 96 graduate credits. Up to 12 credits of 600 level courses can be used for the Pharm.D.

P3 and P4 years will remain as it is in the traditional Pharm.D. program.

Suggested Course Schedule for Pharm.D. /Ph.D. Students

P-1 Year: It would remain the same. In summer, students are required to do a research rotation in three laboratories. Please contact the Department of Pharmaceutical Sciences (231-7661) for details.

P-2 Year: It would remain the same.

G-1 Year: BIOC 701 (4 cr), BIOC 702 (4 cr), STAT 725 (3 cr), PSCI 790 (2 cr), PSCI 799 (15 cr), PSCI 611 (3 cr), PSCI 670 (3 cr)

G-2 Year: PSCI 790 (2 cr), PSCI 799 (25 cr), and at least any two of the following 3 credit courses: PSCI 612/613/614/615

G-3 Year: PSCI 790 (2 cr), PSCI 799 (20 cr)

P-3 and P-4 Years: Unchanged
Students interested in pursuing this option need to see Dr. Singh, the Chairman of Pharmaceutical Sciences, to begin the process. His office is located in Sudro Hall 136.
PHARMACY STUDENT
ACTIVITIES & ORGANIZATIONS

The American Pharmaceutical Association-Academy of Students of Pharmacy (APhA-ASP)

The mission of the American Pharmacist Association Academy of Student Pharmacist (APhA-ASP) is to be the collective voice of student pharmacists, to provide opportunities for professional growth, to improve patient care, and to envision and advance the future of pharmacy.

APhA-ASP membership has opportunities which will help NDSU student pharmacists navigate their way through their education and career through the development of leadership skills, eligibility for awards and scholarships, participation in patient care projects, community outreach, networking opportunities, and advocating for their profession.

Christian Pharmacists Fellowship International (CPFI)

Christian Pharmacists Fellowship International (CPFI) is a worldwide ministry of individuals working in all areas of pharmaceutical service and practice. Its mission is to: provide fellowship among like-minded professionals; challenge and promote spiritual growth; encourage the advancement of knowledge and ethics in the practice of pharmacy; encourage the integration of faith into practice; and provide support and opportunity for service in both home and foreign missions.

The NDSU student chapter of CPFI was established in Fall of 2003. Its purpose is to unite, support, and strengthen the faith of Christian pharmacy students, faculty, and staff within the College of Health Professions. The group holds weekly devotional and prayer meetings and also meets every other Thursday in the student lounge for Bible studies and social activities. The group plans in the future to host speakers on various topics. CPFI students have had opportunities to complete a medical missions trip in a foreign country as part of their experiential program.

College of Health Professions Ambassadors

The College of Health Professions Ambassadors is a selective student organization of 35+ members that represents each of the departments within the College, with members from many of the programs within each department as well as the different stages of the programs ranging from pre-professional to graduate students.

The members of this student organization serve an essential role in the College of Health Professions. This premiere group of students works to promote the College through involvement in a variety of events, including: Sudro Hall building tours for prospective students interested in the majors within the College, homecoming tours for alumni, the White Coat ceremony, the Nurse Pinning ceremony, Discover NDSU, and a host of other events for prospective students, current students, and alumni.

The Health Professions Ambassadors are advised by Dana Davis, Director of Outreach and Community Engagement for the College of Health Professions. Students who are interested in this organization should contact Dana.

Dean’s Liaison Committee (DLC)

The Dean's Student Liaison Committee shall consist of the Associate Dean for Student Affairs & Faculty Development, who shall be chair, and one student representative from each of the following areas: pre-pharmacy, first year, second year, third year, and fourth year of the pharmacy professional program; first year, second year, and third year of the nursing professional program; two allied sciences professional students (or pre-professional students designated by the professional students); up to two master of public health students; as well as one representative from each of the following student organizations: Academy of Students in Pharmacy, American Association of Pharmaceutical Scientists, American Society of Health System Pharmacists, Christian Pharmacists Fellowship International, College of Health Professions Ambassadors, Kappa Psi, National Community Pharmacists
Association, Native American Professional Program, NDSU Public Health Association, NDSU Student College of Clinical Pharmacy, Phi Lambda Sigma, Rho Chi, Sigma Theta Tau, the Students of Allied Sciences Club, and the Student Nurses Association. Student representatives from each group will be elected annually by their respective class or student organization. The purpose of the Dean's Student Liaison Committee is to provide students with an opportunity to interact directly with the Dean's Office, to exchange information, to advise the Dean on student organization budget requests, and to problem-solve on matters of interest and concern to students.

**Kappa Psi**

Kappa Psi is a professional, co-ed fraternity whose main purpose is to unite its members and to help them become better professionals. We try to achieve this by being actively involved in community affairs, university affairs, and the College of Health Professions.

Throughout our history, the Beta Sigma Chapter of Kappa Psi has maintained a stout brotherhood founded on industry, sobriety, fellowship, and high ideals. Our chapter has been involved in many community service events including volunteering for Bethany Homes, the New Life Center, the American Diabetes Association, the Ronald McDonald house, the Arthritis Foundation, Dorothy Day Food Pantry. We also provide a monthly meal along with a blood pressure screening at low income housing in West Fargo. We consistently earn the highest cumulative all-Greek GPA. We sponsor an annual Homecoming pig roast, a faculty appreciation dinner, a Spring Formal, and other social activities. We are also active on the local, regional, and national levels of Kappa Psi.

Kappa Psi was founded in May 1879 at the Russell Military Academy in New Haven, Connecticut. Initially, it was a medical pharmaceutical fraternity and continued as such until 1924. At that time, by mutual agreement, the members of both professions decided to separate into two distinct groups. The medical group became Theta Kappa Psi and the Pharmacy group became Kappa Psi. Our chapter was founded April 25, 1924 and was one of the 27 founding chapters of Kappa Psi Pharmaceutical Fraternity. Our chapter became co-ed in 1998. We continue to thrive on the North Dakota State campus as a source of brotherhood for pharmacy students.

If you have any questions about Kappa Psi Pharmaceutical Fraternity, please feel free to contact: Kappa Psi Pharmaceutical Fraternity, 1345 North University Drive, Fargo ND 58102.

**Native American Professional Program (NAPP)**

To address the critical shortage of Native American pharmacists in the United States, the College initiated NAPP (then known as the Native American Pharmacy Program) in September 1987. The program was designed to recruit and facilitate the entry of Native American students into the College and provide them with counseling and retention services to increase their chances for academic success.

In 2009, NAPP members transformed the program into a student organization and made it inclusive of all the majors within the College, thus changing the name from Native American Pharmacy Program to Native American Professional Programs.

NAPP meets monthly to discuss a variety of topics related to the knowledge and skills needed to pursue degrees offered by the College of Health Professions at NDSU. Counseling and tutorial services for students, financial aid and scholarship information, and internship and future career opportunities also are presented.

**The NDSU National Community Pharmacists Association Student Chapter (NCPA)**

NCPA is a national organization representing independent community pharmacy practice. In 1987, the national office began a student outreach program that has founded student chapters in 41 colleges of pharmacy across the nation. The mission of the NCPA student outreach program is to foster entrepreneurial spirit in pharmacy students and introduce them to opportunities in independent pharmacy practice and ownership.
Established at NDSU in April 2000, the NCPA Student Chapter provides a forum for students to learn about the many career options available in independent community practice. The objectives of the chapter are to promote the profession of pharmacy and the role of independent pharmacy in the health care system, and to maintain and expand educational programs and strengthen student members' professional, business, and leadership abilities.

Goals of the chapter are to sponsor pharmacists involved in an innovative practice to speak at meetings, start a management/ownership workshop for students interested in owning their own pharmacy, participate in service activities to the community, and to send students to the NCPA Annual Convention in October of each year.

Benefits of membership in the student chapter include a variety of scholarships, low interest student loans, and a student publication called The New Independent in addition to the national journal America’s Pharmacist. Students also receive free registration to NCPA’s national convention and opportunities to do a rotation or summer internship at NCPA headquarters in Alexandria, Virginia. Membership is open to all NDSU students enrolled and in good standing with the University.

**NDSU Student College of Clinical Pharmacy (NDSU-SCCP)**

Established in May 2015, NDSU-SCCP is a student chapter of the American College of Clinical Pharmacy (ACCP). Our mission is to familiarize students with the field of clinical pharmacy by providing information about careers and opportunities within the field of clinical pharmacy, to advocate for the role of clinical pharmacists in providing direct patient care, and to encourage participation in the American College of Clinical Pharmacy at the national level and in local/regional chapters.

**NDSU Student Public Health Association**

The purpose of the NDSU Public Health Association is to strive to meet the public health needs of the community by increasing awareness and through the multi-disciplinary collaboration of NDSU students, faculty and staff with the goals of promoting health, preventing disease and improving the quality of life. The SPHA provides opportunities for students to learn more about public health issues in the community and to take on leadership roles in public health community engagement.

**North Dakota Society of Health System Pharmacists Student Chapter at North Dakota State University (NDSHP-NDSU)**

Our mission is to inform students about pharmacy practice opportunities in health-systems, which includes areas such as hospital pharmacy, ambulatory care clinics, home health care, and long-term care.

We invite guest speakers each semester to discuss pharmacy opportunities in the region, including regional residency programs. Each year we hold a clinical skills competition in the fall semester, with the local winning team representing NDSU at the American Society of Health-System Pharmacists (ASHP) Midyear Clinical Meeting. NDSHP-NDSU members are also involved with several community service activities throughout the year.

Our organization is a member of the Student Societies of Health-System Pharmacy (SSHP) in coordination with ASHP and NDSHP. Membership is open to all pre-pharmacy and pharmacy students at NDSU with an interest in health-systems pharmacy.

**Phi Lambda Sigma (PLS)**

In February 1991, Phi Lambda Sigma was initiated at NDSU. The purpose of Phi Lambda Sigma, the National Pharmacy Leadership Society, is to promote the development of leadership qualities in pharmacy, especially among young pharmacy students. By peer recognition the Society encourages participation in all pharmacy activities. Membership crosses fraternal and organizational lines, thus, the Society does not compete with any other organization.

The Society describes a leader as a "do-er" in pharmacy, one who gets the job done. It avoids the stigma of being called an "officers club" by recognizing the performance, not the office.
Membership in Phi Lambda Sigma consists of four categories: students, faculty, alumni, and honorary. For a student to be eligible for membership, he or she shall be of high moral and ethical character, shall have completed at least 135 quarter hours or 90 semester hours of scholastic work applicable toward the pharmacy degree, and shall have a grade point average of 2.5 on a 4.0 grading system. Prospective members are considered for membership by submitting an application during the spring semester. Applicants are evaluated by the existing membership for admittance into the Society on the basis of their demonstration of dedication, service, leadership in the advancement of Pharmacy, and nomination by existing members. Through recognition of dedication and service by pharmacy students, Phi Lambda Sigma provides an incentive for the development of future leadership potential for the profession of pharmacy.

Rho Chi

The Rho Chi Society is a national pharmacy honor society. The Society encourages high standards of conduct and character and advocates critical inquiry in all aspects of pharmacy. Only the top 20% of the second year professional class is selected for membership. The Society’s activities focus on the advancement of its members through scholarship and service to the community.

Thompson Hall (Health Professions House)

There is special housing on campus for pre-pharmacy students. The Health Professions house is currently located on floors 8 and 9 of Thompson Hall. It is available for pre-professional students who are working to gain admittance into one of the College’s programs. When you fill out the NDSU Room & Board Contract application, select Thompson Hall as your residence hall preference, www.ndsu.edu/reslife/residence_hall_application/.

North Dakota State University does not discriminate in its programs and activities on the basis of age, color, gender expression/identity, genetic information, marital status, national origin, participation in lawful off-campus activity, physical or mental disability, pregnancy, public assistance status, race, religion, sex, sexual orientation, spousal relationship to current employee, or veteran status, as applicable.

Direct inquiries to: Vice Provost for Faculty & Equity and Title IX/ADA Coordinator, Old Main 201, 701-231-7708, www.ndsu.edu/equity, ndsu.eoaa@ndsu.edu

Disclaimer: In accordance with State Board of Higher Education policy, Section 450: Institutional Reports, Catalogs, Bulletins (http://www.ndus.edu/makers/procedures/sbhe/default.asp?PID=107&SID=5): "Institutions shall publish electronic and/or hard copies of catalogs and bulletins for the purpose of furnishing prospective students and other interested persons with information about the institutions. Announcements contained in such printed or electronic material are subject to change without notice, and may not be regarded in the nature of binding obligations on the institutions and the State."

Reservation of Rights: Every effort has been made to provide accurate and current information, however, the right is reserved to change any of the rules and regulations of the university at any time, including those relating to admission, instruction, and graduation. The right to withdraw curricula and specific courses, change or discontinue programs, alter course content, change the calendar, and to impose or increase tuition and fees similarly is reserved. In some cases, requirements for programs and prerequisites for courses offered are effective even if they are not listed in this Handbook. All such changes are effective at such times as the proper authorities determine, and may apply not only to prospective students but also to those who already are enrolled in the university.
Abstract
Performance Period: 07-01-2019 to 06-30-2024
Project Director: Donald A. Jurvich, D.O., Professor and Chair, UND Department of Geriatrics
Applicant organization: University of North Dakota School of Medicine and Health Sciences
Project partners: (Academic) UND School of Medicine, Nursing, PT / OT, physician’s assistant, social work, nutrition, psychology, NDSU Pharmacy & SDSU Nursing; (Primary care) Sanford Health, Good Samaritan Society, North Dakota rural clinic network, Indians into Medicine and Indian Health Service; (Community) Center for Rural Health, state Alzheimer’s Association, Senior Centers, Memory Café, Faith Community Nurses, Great Plains QIN, ND State Division on Aging Services and Health Promotion, AHEC, and Edgewood Healthcare Trainees: Patients, families, caregivers, direct care workers, healthcare providers and health professional students, residents, fellows, and faculty.
Application: New

Overview: Representing a region that ranks 4th in the US for oldest – old and Alzheimer’s Disease prevalence, the Dakota G MEP brings together academic, healthcare and community partners to achieve 3 overarching goals: i) strengthen Geriatrics education, ii) integrate Geriatrics into primary care and iii) improve dementia care. These will be done through evidence-based educational resources and clinical practices, PDSA cycles of change, and innovations such as curricular engagement by gamification and inter-professional team competition. Integration of Geriatrics into primary care will be done as a collaborative with the IHI action communities for Age Friendly Health Systems. Dementia care will be improved by infusing HRSA training on ADRD into health professional and community education as well as transforming primary care clinics into both age and dementia friendly enterprises.

Objectives to be accomplished: To promote rigor, a dashboard tracks project accomplishments such as the number of stakeholders educated (e.g., GeroChamp certification), the number of primary care clinics transformed into “age and dementia friendly” operations, and changes in metrics from the Dakota ADRD needs assessment report. Improved clinical outcomes are assessed by 5 MIPS, fall rate reduction and reduced acute care usage.

Project implementation: The Dakota G WEP is housed at UNDSMHS Department of Geriatrics, led by a nationally-engaged Geriatrician and a regional inter-professional advisory council. 4 Innovation Teams work reciprocally with institutional partners. Team 1 develops engaging and innovative educational curricula. These products include i) gamified on – line training towards GeroChamp certification, ii) tele-mentoring through Project ECHO, iii) harnessing social media for education (Geriatric Twitter Poll), and iv) inter – professional team competition through population health simulation. Community service learning is developed for IPE, Geriatrics / ADRD curriculum is standardized across the region, and a Dakota Teaching Academy is established for IPE. Team 2 integrates Geriatrics into primary care. Through PDSA cycles of change, clinical teamets from urban, rural and IHS join action communities at IHI “Age Friendly Healthcare Systems.” As part of primary care redesign, the project transforms the patient – provider dyad into a triad relationship between patient, provider and community workers facilitated by a new state-sponsored Senior health promotion web portal. Team 3 improves dementia care by inculcating HRSA training on ADRD into educational platforms for health professions and community as well as strengthen dementia care in the PCMH. Team 4 cultivates G WEP partnerships and analytics to monitor project health outcomes around 5MIPS (opioid misuse, dementia training, fall risk, medication risk, and advance directives). The overall goal of the Dakota GWEP is to improve the quality of healthcare for older adults while reducing healthcare costs as well as reduce health disparities among vulnerable older adult populations.

Special populations targeted and funding preference: In addition to diverse populations represented by health system partners, the project engages Indian country as well as rural health and manpower shortage areas. This application requests funding preference under Title VIII, Section 805 of the PHS Act for rural and underserved populations.
PROJECT NARRATIVE

PURPOSE AND NEED

What is the purpose of the project and gaps that it fills? The purpose of the Dakota Geriatric Workforce Enhancement Program (Dakota GWEP) is to employ evidence-based strategies to strengthen Geriatric knowledge among health professionals, integrate Geriatrics into primary healthcare and improve dementia care. Developed as a regional enterprise in the northern Great Plains, the Dakota GWEP promotes critical values such as collaboration, innovation, quality improvement, inter-professionalism, and attention to health disparities. The program engages multiple stakeholders, including health professionals, faculty, health professions trainees, patients, caregivers and their families. Program innovations such as active learning, curricular enhancement through gamification and augmenting curriculum through social media all offer new and interesting paths for deeper learner engagement. The Dakota GWEP seeks higher quality care of older adults, helping primary care teams transform the usual patient – provider relationship into an activated triad of patient, provider, & community health worker who are focused on the Geriatric 4M’s: what matters, mentation, mobility and medications.

The first and foremost gap that the Dakota GWEP fills is the need for a collective approach to solve Geriatric problems in a region that is fourth in the country as a percentage of oldest old and those with Alzheimer’s Disease.\textsuperscript{1,2} This collective approach is essential to creating a community culture for healthy lifespans. The Dakota GWEP brings together a like-minded family of academic, health care and community institutions. An important cornerstone to the multiple GWEP partnerships is the inclusion of Sanford Health which is the largest health provider in the Great Plains, reaching both North and South Dakotans in urban, micropolitan, rural, and Indian country. The Dakota GWEP cultivates over 20 partners from state agencies, professional and consumer organizations, rural health, Indian Health Services, 3 universities, and multiple community organizations. All told, these partners fulfill the Native American meaning of “Dakota” which translates as “friends and family.”

A well known gap is Geriatrics expertise. In the Midwest, there are only 740 Geriatricians with a need of 5050 relative to the aging population.\textsuperscript{3} With this shortfall, the Dakota GWEP strives to fill gaps in health professionals’ knowledge, skills and practice of Geriatrics\textsuperscript{3} as well as inform patients, families and caregivers about healthy aging and managing multiple chronic conditions common to late life. Gaps exist in health professions curricula in the Dakotas. For example, curricular mapping and test results show that UND medical students do not acquire all 26 AAMC competencies in Geriatrics\textsuperscript{4}, they only increase their Geriatrics knowledge by 3% during clinical clerkships,\textsuperscript{5} and they have little inter-professional education in older adult care. Similar gaps exist amongst our academic partners. At the post graduate level, none of the UND family medicine or internal medicine residency training programs have a standardized Geriatrics curriculum or access to interdisciplinary Geriatric consultations. As one of 23 community teaching medical schools in the US, none of the partnering medical centers have a Geriatrics curriculum for providers who serve as clinical faculty. Despite these gaps, our Qualtrics educational survey revealed that 85% of primary care providers in rural, micropolitan, and metro areas expressed a readiness for geriatrics education (n=68). Notably, only 39% of provider respondents ever received some form of Geriatrics training. A whopping 97% of respondents expressed readiness to integrate geriatrics into primary care! These findings suggest a high level of interest in Geriatrics but insufficient curriculum.
Accentuating the gap in Geriatrics training is the lack of inter-professional education in Geriatrics. Even though UND is a pioneer in IPE with inter-professional learning centers, none of the current IPE content addresses older adult or dementia care. Furthermore, our academic partners, NDSU Pharmacy and SDSU Nursing, have no formal IPE programming. Analysis of post graduate training programs reveals little IPE in the primary care setting, and IPE in the community is not known.

In addition to gaps in Geriatric knowledge, the Dakotas have major gaps in their understanding of Alzheimer's Disease\textsuperscript{17} and dementia care despite being amongst the top 4 states in the country for AD prevalence.\textsuperscript{1} For example, the 2018 State Plan for ADRD\textsuperscript{5} included a survey of dementia services and resources (n=1025). Using a Likert scale (1 – 5), the survey showed low public awareness (2.7), insufficient training of health professionals (2.8) and low community support (2.6). The quality of primary care doctor involvement was rated 3.6, noting “it is hard to find the right doctor to diagnose and manage ADRD.” These knowledge and provider gaps in dementia care are ominous given the exceptionally high prevalence of ADRD in the Dakotas and a projected increase by 17.6% over the next 5 years.\textsuperscript{6}

Perhaps the largest Dakota gap is lack of Geriatric integration into primary care. The recent North Dakota state plan on aging reveals major gaps in access to primary care and coordination of community resources for health for older adults.\textsuperscript{18} As further evidence of this gap, on-going health care redesign with one of the GWEIP clinical partners, Sanford Health, focuses on chronic conditions in primary care and not the Geriatric 4M’s. Clinical problem lists rarely report geriatric syndromes. Screening for memory loss, fall risk and nutritional deficiencies are only occasionally observed during chart reviews of primary care patients 70 years old and older.

Additional gaps are noted where a PDSA cycle of change to incorporate walking speed as a 5th vital sign in the Patient Centered Medical Home (PCMH) was met with competing “enterprise” requirements for chronic disease assessments, none which focused on patient function!

The lack of “geriatricization” of primary care creates gaps in elderly safety. PCMH operations have no formal screening of opioid misuse, fall risk or dangerous medications in elderly. This shortcoming is accentuated in rural areas where data from the Dakota Trauma Registry show that rural elderly experience more head trauma and more fractures per fall than urban dwelling elderly. This fact reminds our GWEIP partners about gaps related to elderly health disparities, a point further illustrated by data showing that Native American elders suffer 15% more disabilities than other elderly groups.

*What populations does the program serve and what are their unmet needs?* The Dakota GWEIP serves both North and South Dakota whose populations rank 4\textsuperscript{th} in the country as the oldest-old and represent the 4\textsuperscript{th} and 5\textsuperscript{th} highest prevalence of Alzheimer’s Dementia in the US.\textsuperscript{8} Table 1 demonstrates the numbers and percentages of vulnerable elderly in the two states. Rural and Frontier regions of the Dakotas represent 43% of the states’ population who are older, poorer and have less health insurance coverage than people in urban areas. Health disparities exist in the overall use of primary care. Whereas, 1000 young adults average 1700 annual clinic visits, 1000 elderly make 7200 primary care visits annually. This age disparity represents a 4 fold difference in primary care utilization.\textsuperscript{5} Over two thirds of the state counties are designated rural or frontier and nearly 25% live in a health professional shortage area.\textsuperscript{6} In addition to primary care shortages in many counties, our survey indicates no Geriatric services in rural areas. Gaps in access to Geriatric expertise is even more pronounced among Native American elders who
constitute the largest minority population in the Dakotas, with many living at 14 reservations crisscrossing the states. Chronic disease burden is high and functional disabilities among American Indian older adults is 47.2% relative to 33.4% in Whites. Native American poverty rate is 3 to 4 times that of the general population, and 86% of elders rely on public health insurance.

Table 1. US Census Bureau quick facts (estimated 2018 figures), Veterans Affairs, and Pew Foundation

<table>
<thead>
<tr>
<th>Category</th>
<th>North Dakota</th>
<th>South Dakota</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>Total population</td>
<td>723,857</td>
<td>882,235</td>
<td></td>
</tr>
<tr>
<td>65 years old &amp; older</td>
<td>102,787</td>
<td>97,029</td>
<td>16.6%</td>
</tr>
<tr>
<td>Frail elderly</td>
<td>15,418</td>
<td>14,354</td>
<td>15%</td>
</tr>
<tr>
<td>Native American (total)</td>
<td>36,192</td>
<td>79,401</td>
<td>7.2%</td>
</tr>
<tr>
<td>Native American 60 years old and older</td>
<td>5,139</td>
<td>11,274</td>
<td>14.1%</td>
</tr>
<tr>
<td>Minority elderly 65 years old &amp; older</td>
<td>8,017</td>
<td>6,112</td>
<td>7.3%</td>
</tr>
<tr>
<td>Veterans (total)</td>
<td>52,371</td>
<td>60,330</td>
<td>7.0%</td>
</tr>
<tr>
<td>Veterans (65+)</td>
<td>22,165</td>
<td>29,384</td>
<td>3.4%</td>
</tr>
<tr>
<td>Poverty rate (all population)</td>
<td>8,396</td>
<td>12,880</td>
<td>11.6 - 14.6</td>
</tr>
<tr>
<td>Poverty rate (elderly)</td>
<td>1,192</td>
<td>1,416</td>
<td>11.9</td>
</tr>
<tr>
<td>Poverty rate (Native American)</td>
<td>14,476</td>
<td>31,760</td>
<td>38 - 43%</td>
</tr>
<tr>
<td>Poverty rate (minority)</td>
<td>2,244</td>
<td>1,711</td>
<td>25 - 28%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Life expectancy (years from birth)</th>
<th>North Dakota</th>
<th>South Dakota</th>
<th>US</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disability (% 65 years old and older)</td>
<td>34.2</td>
<td>33.7</td>
<td>35.7</td>
</tr>
<tr>
<td>Alzheimer’s death rate (#/100K)</td>
<td>36.2</td>
<td>36.2</td>
<td>25.4</td>
</tr>
<tr>
<td>Hip fractures with hospitalization (#/100K)</td>
<td>5.85</td>
<td>6.94</td>
<td>7.07</td>
</tr>
<tr>
<td>Native American Falls (%)</td>
<td>37</td>
<td>37</td>
<td>30</td>
</tr>
<tr>
<td>Diabetes prevalence (%)</td>
<td>8.2</td>
<td>6.9</td>
<td>9.5</td>
</tr>
<tr>
<td>Osteoarthritis prevalence (%)</td>
<td>22.4</td>
<td>23</td>
<td>23.9</td>
</tr>
<tr>
<td>Inactivity with arthritis (%)</td>
<td>34.5</td>
<td>21</td>
<td>28</td>
</tr>
<tr>
<td>Cancer (#/100K)</td>
<td>443</td>
<td>448</td>
<td>436</td>
</tr>
<tr>
<td>Hospitalization for Heart Failure (#/1000)</td>
<td>12.9</td>
<td>14.2</td>
<td>21.0</td>
</tr>
<tr>
<td>Opioid related Overdose Deaths (#/100,000)</td>
<td>7.6</td>
<td>5.0</td>
<td>13.3</td>
</tr>
</tbody>
</table>

Unmet social determinants of health needs are revealed in a recent Community Health Needs Assessment (CHNA) conducted by the Center for Rural Health. It shows rural population concerns about opioid misuse, sedentariness, and mental health issues. Top problems ranked in the survey were: i) human behaviors related to nutrition, alcohol, substance abuse and exercise, ii) mental health, iii) health workforce, and iv) elderly services. As such, they reinforce the need for the Dakota GWEP to strengthen Geriatrics knowledge among all stakeholders and better integrate Geriatrics into primary care.

The Dakota GWEP recognizes several unmet Geriatric educational and training needs with its academic and clinical partners. One clear need is for better trained faculty in Geriatrics. Only 40% of community – based primary care faculty report any previous training in Geriatrics. Post graduate trainees, especially in family medicine, have little access to Geriatricians and their curriculum does not meet even half of the ACGME recommended milestones in Geriatrics. At the medical student level, our Geriatric Twitter Poll project revealed that medical students gained only 3% additional Geriatrics knowledge as a result of their internal medicine rotation. We were delighted to find Twitter Poll participation boosted end of rotation Geriatrics knowledge to
15.5%, but this educational adjuvant is not a substitute for teachable moments or mentorship in older adult healthcare by clinical faculty who are GeroChampions. Overall, Geriatric knowledge acquisition and retention is not being systematically tracked by medical, nursing or allied health professional training programs. At best, mock and real medical licensing exams show that most trainees exhibit average to below average knowledge of Geriatric principles. In addition to shortcomings in curricular evaluation, health training programs lack robust inter-professional training in Geriatrics. Existing IPE programs have little Geriatric content, and there is no curriculum on Geriatric population health. Finally, trainee attitudes about Geriatrics is suboptimal, suggesting the need to ramp up trainee engagement in Geriatrics. The Dakota GWEP plans to further address the unmet need of more engagement in Geriatrics curricula through game-based learning, gamification and IPE team competition.

Table 1 provides national and state health status indicators related to the Dakotas. These data emphasize health disparities in rural and Native American elderly populations. Compared to the rest of the country, the Dakotas exhibit more cancer and Alzheimer’s Disease. Sedentariness is a big problem in ND, and both states have high disability rates similar to the rest of the nation.

The Dakota GWEP will monitor and analyze health indicators to measure its impact. Dashboards of the parameters will be posted on the Dakota GWEP web site. The health indicators will include Health Promotion and Prevention, Social determinants of health, and the Geriatric 4Ms (mentation, mobility, medications, what matters), including 5MIPS Measures.

<table>
<thead>
<tr>
<th>Health indicator category</th>
<th>Health indicator measured</th>
</tr>
</thead>
<tbody>
<tr>
<td>Health promotion and prevention</td>
<td>% completing preventive care: vaccines and cancer screening</td>
</tr>
<tr>
<td></td>
<td>% regularly exercising</td>
</tr>
<tr>
<td></td>
<td>% using DASH or Mediterranean diet</td>
</tr>
<tr>
<td></td>
<td># elderly accessing senior health promotion portal</td>
</tr>
<tr>
<td>Social determinants of health</td>
<td>AAFP social needs screening tool (safety, food, assistance, transportation, housing, utilities) plus % heavy alcohol use, % obese and % screened for opioid misuse (MIP 1)</td>
</tr>
<tr>
<td>Geriatric 4M’s</td>
<td># elderly screened for fall risk (MIP 2) and # ED fall visits</td>
</tr>
<tr>
<td>Mobility</td>
<td># high risk medications deprescribed (MIP 3)</td>
</tr>
<tr>
<td>Medications</td>
<td># caregivers trained in dementia care (MIP 4)</td>
</tr>
<tr>
<td>Mentation</td>
<td>% elderly with advance directives (MIP 5)</td>
</tr>
<tr>
<td>What matters</td>
<td></td>
</tr>
</tbody>
</table>

The Dakota GWEP will improve both the healthcare of older adults and their health outcomes through several projects that will be continuously monitored by Plan – Do – Study – Act cycles of change. The most immediate impact on healthcare will be through primary care teams engaging the IHI initiative on Age – Friendly Health Systems. These teams will consist of administrators, physicians, nurses and allied health professionals. Many of the teams will come from established but evolving Patient Centered Medical Homes (PCMH) whereas other teams, mostly rural and Indian Health, will participate as usual care teams, some aspiring to become a PCMH. By focusing on the IHI guidance for the Geriatric 4Ms in primary care, we expect teamlets to considerably improve their skills in Geriatric assessment and management. These skills will include functional assessments such as the use of gait speed and the Rapid Geriatric Assessment tools. PDSA cycles will gather data to inform us whether newly acquired skills are
regularly applied. Our experience shows that consistent application of Geriatric Assessment reduces hospital recidivism and replicates many other outcomes from evidenced-based research such as lower depression rates, higher satisfaction of health care, and less disability.

Essential to improved healthcare of older adults is the project goal of transforming the provider – patient relationship into a triad of provider – patient – community worker. To this end, our partnership with the North Dakota State Division of Health Promotion, the Great Plains QIN and Sanford Health will create a new web portal for providers and patients to engage a health coach or health ambassador. To a certain extent, this program replicates the highly successful, State supported Alzheimer’s Disease consultation service that has face to face, telephonic, and internet communications for dementia caregivers. We plan to bolster this program by creating a new provider “order set” in the electronic medical record and to have health coaches report back to the primary care clinics on patient exercise engagement. The chairman of this GWEPs national advisory council is an international expert on behavioral modification for exercise adherence.

RESPONSE TO PROGRAM PURPOSE

(a) WORK PLAN

The Dakota GWEP work plan revolves around 4 goals:

1. Activate and build GWEP partnerships involving academic programs, community organizations, and primary care health systems.
2. Create engaging curriculum on Geriatrics and Alzheimer’s Disease for all stakeholders (patients, families, caregivers, health professional faculty and their trainees).
3. Integrate Geriatrics into Primary Healthcare.
4. Strengthen and expand education in Alzheimer’s Disease to improve dementia care.

What are the steps to achieve GWEP objectives? Processes for project management include:

1. Initiating: Start up processes entail orientation of staff & representatives from the partnerships, hiring TBD positions, assembling 4 Innovation Teams, activating the regional and national advisory councils, and other logistics such as creation of a Dakota GWEP web portal. Project initiation occurs over the first 3 months of the project start date.
2. Planning: Project objectives are refined through the Innovation Teams and curricular consultants. Dates are established for regularly scheduled meetings & deliverables, analytical teams prepare for data collection, and teams are activated with training on PDSA cycles of change. The planning process provides project granularity over the first 6 months.
3. Executing: The GWEP staff and leadership coordinate people & resources to implement the 4 objectives. Deliverables will be asynchronously parsed over years 2–5.
4. Controlling: To ensure project rigor and objectives are met, data and reports are assessed to account for variances in the plan and corrective actions taken (PDSA cycles of change). Dashboards and Gantt charts will be used to track progress. Tracking of progress, MIPS and other outcome measurements occur over the 2nd through 5th years of the project.
5. Closing: The project integrates findings and products into other educational and clinical platforms (such as incorporation of GWEP patient education modules into the State’s senior health promotion web portal and Sanford Health’s patient and provider portals). Evidence and best practices are disseminated with enrollment of new partners in academia, healthcare, and community. Project sustainability is achieved by “routinization” of processes and products such as continuous PDSA cycles of change for integrating Geriatrics into primary
care. Program income is generated by consultant fees to Geriatric teams, conversion of gamified curriculum into apps, grants, and enrollment fees for the Dakota IPE Teaching Academy. This phase includes preparation for the next 5 years of Geriatrics training and integration of Geriatrics into primary care through curricular mapping, community and partner “needs assessments” and strategic planning.

Key GWEP partners: The Dakota GWEP will be housed at the University of North Dakota (UND) School of Medicine and Health Sciences and its Department of Geriatrics. To effect inter-professional programming, UND academic partners include the College of Nursing (including Schools of Social work, Nutrition, and Psychology), School of Allied Health (including Physical/Occupational Therapy, Physician’s Assistant, and Sports Medicine), Indians Into Medicine program, Center for Rural Health, and School of Public Health. Additional academic partners include North Dakota State University College of Pharmacy and South Dakota State University College of Nursing.

Primary healthcare partners include Sanford Healthcare, the largest healthcare provider in the Great Plains, clinics from the North Dakota Rural Health Critical Access Hospital Network (starting with Sakakawea Medical Center, Hazen, ND), and clinics from Indian Health Service (starting with Spirit Lake Health Center, Fort Totten, ND).

Community partners for the Dakota GWEP include the State of North Dakota (Aging and Health Promotion Divisions), the Great Plains Quality Innovations Organization, Alzheimer’s Associations of SD and ND, Senior Centers, professional groups (Faith Community Nursing), assisted living networks (Good Samaritan Society and Edgewood Healthcare), Memory Cafés, and AHECs.

Program deliverables: Through its partners, the Dakota GWEP provides “deliverables” in education, training and health care redesign. Some of this work has already begun. For example, pre-GWEP activities validated Geriatric Twitter Poll\(^\text{12}\) as an educational product that now can be adapted for inter-professional education. Similarly, active learning sessions in Geriatrics can now be disseminated to inter-professional learning communities. Pre-GWEP activities have included health care redesign where a PDSA cycle of change with our healthcare partner, Sanford Health, resulted in reduced hospital recidivism (2%) and elderly falls (50%).

A key goal for the Dakota GWEP is to enhance learner engagement in Geriatrics. Guided by the UND Center on Learning and Teaching, we build on the theoretical foundations of Learning Sciences (LS), an interdisciplinary field influenced by education, psychology, computer science, instructional design, cognitive science, and other disciplines. The LS goal is to understand the processes that result in effective teaching and learning, and build a scientific foundation for creating innovative learning environments that help students learn more deeply.

The first programmatic deliverable is certification of trainees as Gero-Champions through “gamification” of on-line curriculum. An interactive patient panel game and gamification design built around PDSA cycles and game theory integrate educational materials into a continuum from didactic knowledge (via GWEP CatchON curricula) to simulated application (via cases and interactive patient panels) to application in clinical settings (via mentoring). This deliverable will result in materials that move learners from awareness to action through motivational
gamification tactics that require and reward desired behaviors in Geriatric and ADRD management. Recognizing that optimal learning occurs through both mistakes and successes, management of clinical vignettes allow learners to gather (or lose) points for best geriatric practices that lead to GeroChampion certification. Game design will situate game play and interactive tools in real Geriatric problems and provide multiple opportunities for practice and performance. We adopt an evidence-based model, Situated Authentic Problem Solving (SAPS), to increase learner motivation through novelty, control, challenge, curiosity, and collaboration.

A second program deliverable in learner engagement is Population Health Simulation whereby inter-professional teams compete with each other to achieve best population health metrics using virtual and real patient panels. Virtual patient panels will be derived from Eastern Virginia Medical School’s Virtual Family in addition to cases we develop with the electronic medical record, Academic EPIC. Health care teams of medical students, nurses, Pharm Ds and allied health professions will compete with one another to achieve the best health care metrics in their patient panel. These metrics include elderly safety (fall risk assessments & de-prescribing harmful medication) as well as key chronic disease and preventive health measurements.

The third educational deliverable for learner engagement is expansion of Geriatric Twitter Poll for IPE. The fourth educational deliverable is telementoring through Project ECHO Geriatrics. The fifth deliverable for learner engagement is development of activated, gero-competent faculty across all health disciplines through train the trainer programs at the GWEP – created Dakota Teaching Academy for Inter-professional Education.

Program deliverables in health care redesign include: i) integration of the Geriatric 4M’s (mentation, medication, mobility, and what matters) into primary care clinics, ii) creation of a web based senior health promotion portal, and iii) continuous PDSA cycles of change to adopt new, evidenced based Geriatric practices. Measurement of 5 MIPS and additional health outcome metrics will let us know how well Geriatrics has been integrated into primary care.

Program deliverables to improve dementia care include: i) incorporation of HRSA training curriculum on ADRD into student and post – graduate training programs (https://bhw.hrsa.gov/grants/geriatrics/alzheimers-curriculum), ii) transformation of the PCMH into dementia friendly clinics through staff training and operational changes (e.g., caregiver training through group visits at the clinics), iii) creation of annual regional symposiums for inter-professional strategies in dementia care, and iv) community education on ADRD through faculty presentations at partner events (e.g., Memory Café gatherings and community faith RN sessions).

How is the work plan appropriate for the program design? The Dakota GWEP work plan fosters inter – professional collaborations around Rapid Cycles of Change to help with an iterative process towards improving Geriatric and dementia care. The work plan includes faculty, trainees, community members, and health professionals from both urban and under – resourced areas with the goal of reducing health disparities and inequitable distribution of health resources in Geriatrics.

Identify meaningful support and collaboration with key partners: Programs at UND SMHS have a long track record of collaborations with HRSA, state, academic, health systems and community
stakeholders. Many of these collaborations address health inequities across the region. For example, UND Geriatrics, CON, and Allied Health partnered with Grand Forks Public housing to bring inter-disciplinary Geriatric programs to under-resourced seniors. Other GWEP partners, such as the Center for Rural Health and CON are testing Native American Aging in Place through a home visit program. Table 3 below provides a synopsis of resources and support the partners bring to the GWEP:

Table 3

<table>
<thead>
<tr>
<th>GWEP Partner status</th>
<th>Partner name</th>
<th>Meaningful support &amp; collaboration</th>
</tr>
</thead>
</table>
| Academic            | UND Center for Rural Health (CRH) | State analytics (health manpower shortage)  
Project ECHO manager  
Web master for GWEP project  
State analytics (Biennial Report on health, Vital Signs)  
Community needs assessments  
Native Americans Aging in Place (NAAP)  
Indian Elder Abuse Prevention  
National Resource Center on Native American Aging |
|                     | UND InMED and RAIN | Indian health trainees and training sites at reservations  
GWEP national advisory board member |
|                     | Geriatrics Department | Chairman as partnership leader  
Collaboration with CatchON GWEP  
Collaborators in IPE & faculty development  
Geriatric fellowships (2)  
Board cert geriatricians (6), Tideswell Scholar  
Director of Geriatric Education (PhD)  
$5M endowment to leverage with GWEP  
PDSA expertise via RW Johnson scholarship  
Scholarly activity  
Educational innovations (Twitter Poll, IPE community service, IPE simulation, active learning) |
|                     | Colleges of Nursing (UND and SDSU); School of Social Work and Nutrition | Faculty with Geriatric training via Hartford, FLAG (n=4), IPE expertise & collaborator, share training sites at rural, Indian and community medical centers.  
Gerontology PhD program and undergrad minor |
|                     | NDSU School of Pharmacy | Geropharm D (n=1); Pharm D residents train at Geri clinic and ROME, geropharm curriculum, IPE partner. |
|                     | UND Health Professions (Physical Therapy, Occupational Therapy, Physician Assistant, Sports Medicine) | Faculty with geriatric expertise (n = 3), IPE partner for community service learning and clinical simulation training.  
Gerontology curriculum as a minor to health professions degrees |
|                     | Sanford Health | ACO, CPC Plus participant, largest primary care provider in rural Midwest, Health outcomes research center, clinical training center for all academic programs, Quality Improvement office, Analytics department, Patient education office, enterprise – wide PCMH, current partner in PDSA for Senior PCMH and geriatric services. |
|                     | Rural Critical Access Hospital Quality Network | ACO, 36 rural clinics, established partner with UND CRH and CON, analytics via QIO contract, clinical training sites for ROME program and IPE called “Isle” |
Indian Health Service (Spirit Lake)  
Partner with CRH and CON for Native American Aging in Place, collaborator with INMed and RAIN health professions program for Native Americans.

Community partners

State of North Dakota (Division on Aging & Health Promotion)  
Partner with Sanford, QIO and UND for developing a senior health promotion web portal, sponsors ADRD consultation for caregivers, sponsors Stepping On and other elderly services

Heath Care Associates & Great Plains QIO  
Partner with UND Geriatrics on improving dementia care and antibiotic stewardship, provides analytics to GWEP, collaborates with health profession training.

State AD association  
Partner with UND for provider training, needs assessments, liaison to Memory Café and Faith Community programs for public education, provides caregiver training via state contract.

Faith Community Nursing  
Supported by Sanford Health and partners with UND on geriatric presentations for membership, Geriatric fellows train at FCN sites.

Memory Café  
UND and Sanford support community based services

Senior Centers (Grand Forks and Fargo)  
UND and Sanford support community based services

Assisted Living (Good Samaritan and Edgewood)  
Good Sam Society and Sanford Health merged, UND supports resident education and staff training as well as clinical services.

**Telehealth modalities for the Dakota GWEP:** The Dakota GWEP partners have extensive telehealth infrastructure. UND-SMHS operates Project ECHO – Opioid through the Center for Rural Health and this platform will be adopted for ECHO – Geriatrics by our faculty who are linked to inter-professional education. Clinical partner, Sanford Health has two telehealth platforms: TytoCare for the Medicare CPC Plus program and One Connect that is a Citrix – VPN program linking telehealth to both real – time and archived patient visits. This platform is used for Geriatric Assessment programs for primary care centers in rural and Indian health services.

**Subcontracts of the Dakota GWEP:** To strengthen partnerships, the Dakota GWEP allocates resources to its membership for analytical support, travel, and release time to participate in education, quality improvement, and healthcare redesign. Our health partners receive 24% of GWEP funds for health care transformation and our community partners receive 6%. Funds are allocated to health care partners to participate in action communities with the IHI Age Friendly Health Systems. Additional support is provided to partners for analytical work (Sanford Health, Center for Rural Health, and Great Plains QIO). To create engaging curriculum through gamification techniques, a subcontract engages Triad Interactive Media which has won multiple national awards for best educational game or simulation. All these subcontracts will be monitored by the Dakota GWEP administration and the UND research office, verifying receipt of work product and ascertaining COI status. Unused sub-contractual funds will be re-allocated to other GWEP projects.

**(b) METHODOLOGY / APPROACH**

UND-SMHS and its academic partners are community – based training programs that rely upon urban, rural, VA, and Indian health care systems for clinical education of their health professional students and post – graduate trainees. The State of North Dakota recently built a new building for UND-SMHS designed explicitly for inter – professional education (IPE). The
structure has 4 community learning centers where medical students and health care professions students gather for learning and networking. Large and small classrooms enable active learning through round tables that seat 10 learners. There is a state - of - the - art simulation center with a mobile unit that is used for students and post - graduate trainees IPE (The UND SIM Center has trained over 3600 trainees). Engaging 9 different health professions, the UND IPE curriculum includes case - based sessions for pre-clinical students with real patients, a rural IPE for student clinical rotations called Inter - professional Student Community-based Learning Experiences (ISCLE), and Community Service Learning in Geriatrics at senior public housing.

The Dakota GWEP utilizes educational methods and platforms from all of its partners, steeped in UND’s educational strategy of active learning. UND educational methods include: active learning, flipped classrooms, on - line curricula, simulation, symposia, workshops, clinical experiences, and one - on - one mentoring. These modalities complement each other. For example, if a 3rd year medical student does not observe a “core” clinical case listed in their portfolio, then they complete a virtual patient case. Our community and clinical partners are very strong in patient and family education, using public seminars, on - line training, face to face meetings, and clinical group visits. Educational outcomes are evaluated by methods that include: pre and post testing, focus groups, clinical chart review, clinical observation and surveys.

The Dakota GWEP fulfills HRSA requirements for a Geriatrics training program. There are two Geriatrics fellowships funded by the state through the North Dakota Health Workforce Initiative (NDHWI). Both fellowships are located at community - based primary care sites (Sanford – Fargo and CHI Alexius – Bismarck). ACGME accredited the fellowship program “with merit.”

The Dakota GWEP meets HRSA requirements to utilize primary care training sites, including rural and Indian Health community – based primary care sites. The UND Rural Opportunities in Medical Education (ROME) is a 28 week interdisciplinary experience in a rural primary care practice. The UND College of Nursing places students and trainees at Indian Health Service clinics and Federally Qualified Health Centers. The UND InMED program and Center for Rural Health facilitate health training programs (such as Rural Palliative Care). Furthermore, the clinical partners of the Dakota GWEP have extensive primary care operations in rural and Indian country. Sanford Health is considered the largest provider of rural primary care in the US. Another clinical partner, the North Dakota Critical Access Hospital Quality Network engages 36 rural primary care clinics.

The Dakota GWEP is responsive to the HRSA requirement for engaging community partnerships in education. For example, the Geriatric fellows have a block rotation that engages Senior Centers, Memory Café, Senior housing, and Faith Community nursing. Geriatric faculty similarly provide community partners with lectures and consultations for rural nursing homes via our partnership with the Great Plains QIO.

Reciprocity, Synergism, and Dissemination within the Dakota GWEP: Partnership reciprocity is highlighted by the fact that Sanford Health provides community – based faculty with financial support and release time for teaching while UND provides accreditation and faculty financial support (for example, the PD for this project receives equal support from Sanford and UND). Community partnerships have similar reciprocity. As an example, development of the new web-based Senior health promotion portal involves UND Geriatrics, Sanford Health’s patient education, the State Division of Health Promotion and the Great Plains QIO.
In terms of synergism, it can’t be emphasized enough that our clinical partner’s extensive use of the Patient Centered Medical Home is an exceptional foundation for inter-professional education. This platform brings together medical, nursing, social work, pharmacy and physical therapy faculty and trainees. Also, Sanford Health supports PDSA cycles of change and has been a strong participant in IHI Action Communities. The program director of the Dakota GWEP is one of the founding RW Johnson scholars for IHI and its chronic disease collaborative, so this expertise synergizes extremely well with our clinical partnership. Perhaps most exciting is the synergy expected for analytics whereby the dashboard for Dakota GWEP metrics will be informed by analysts from the Center for Rural Health, Great Plains QIO, North Dakota CAH Quality Network, and Sanford Health. Implicit in this partnership is the “spill over” effect of data collection and interpretation that will engage our community partners such as senior housing (Good Samaritan and Edgewood). These data help inform our partners of best practices and what works or does not work. For example, we found that integrating gait speed as the 6th vital sign for older adults did not work when assigned to PCMH health coaches. Thus, the Dakota GWEP will disseminate project information through a clearing house of PDSA cycles of change.

**Description of how GWEP objectives will be achieved:**

Program objective 1 is to nurture partnerships between academia, primary care sites, and community based organizations. Partnership building is an iterative process. What we start with now will grow over time. The PD of this project understands this process, having helped with another GWEP called CatchON while serving as chair of its national advisory board. 10 inaugural GWEP partners evolved into 40, yet many of these partners were not part of an action community. Thus, management of the partnership is not trivial, and partner engagement needs to be constantly evaluated. One example is the need to address barriers to integration of Geriatrics into primary care when health partners require efficiency. The Dakota GWEP anticipates fluctuating partnership dynamics and addresses these with inter-professional “Innovation Teams,” regular stakeholder communication, and dashboards to track the partnership’s progress and outcomes. These techniques for team building will be supported by mission and value statements that guide the Dakota GWEP in creating a culture of change that brings value - based care to older adults. We expect the reward of becoming a healthcare GeroChampion through objective 2 will provide incentives for stakeholders to be highly recognized by their school, health system and community.

Program objective 2 seeks to train geriatric specialists, primary care providers, and health professions students, residents, fellows and faculty in Geriatric principles of healthcare. With this goal in mind, the Dakota GWEP wants to enhance learner engagement, especially for those who don’t see older adult health care as exciting as Geriatricians and Gerontology trained health professionals may find. To strengthen learner engagement in Geriatrics, the Dakota GWEP transforms educational offerings through gamification, competition, and use of social media. Guided by UND faculty and national experts in educational games and simulation, we intend to launch three educational PDSA cycles that transform pre-existing Geriatrics curriculum into reward – garnering experiences.

The first Educational PDSA for engagement converts on-line Geriatrics education to vignette – guided pathways that allow learners to gain or lose points towards becoming a GeroChampion. This educational product is developed with a subcontractor, Triad Interactive Media, in collaboration with UND Associate Dean of Education, Dr. Van Eck, who is an expert in gamified curriculum. The on-line curricula will be obtained from established sources such as
the Catch ON GWEP and HRSA’s ADRD training modules. We also use existing UND training modules on health disparities and social determinants of health. These modules are highly relevant to Native Americans who constitute 8% of the Dakota GWEP catchment of older adults. Learning events will address the knowledge and skills required to maximize older adult health outcomes. In order to fully achieve these learning outcomes as well as related attitudes, it will be necessary to provide application opportunities for trainees to learn what impact their knowledge and skills may have on patients. To achieve this we create and test a patient simulation game. Game development addresses game mechanics, user interface graphics (UX/UI), levels, curricular alignment, feedback, and rewards (see scope of work in letter by Triad Interactive Media, Other Attachments). Game engagement will be time sensitive so learners experience a sense of urgency for getting correct responses efficiently. Incorrect answers will also be weighted more heavily to discourage guessing. The game allows for time-compression so that learners can quickly evaluate the long term impact of their changed practice. Thus, 10 – 20 years of clinical experiences are compressed into a 30 minute game session that allows replayability so learners can explore the impact of their clinical decision making in a more in depth manner. To translate lessons learned from simulation, learners input Geriatric processes from their clinical rotations to garner additional points for GeroChampion certification. The certification process will support different levels of expertise ranging from accomplishing the 26 AAMC competencies in Geriatrics for medical students to the 72 ACGME competencies in Geriatrics for fellows. Additional PDSA cycles, such as inter – professional team competition to achieve best Geriatric practices, will complete the learning cycle needed to master our intended outcomes for GeroChampions.

The second Educational PDSA for engagement centers on older adult population health. The key concept is to have inter – professional teams compete with one another to achieve best health care metrics for their patient panel. Our intention is to have pre-clinical medical students and allied health profession trainees manage both virtual and real older adult patient panels. The virtual patient panel will be derived from the Eastern Virginia Medical School’s “virtual families” as well as our development of patient cases using a mock electronic medical record, Academic EPIC. Real patient panels to complement the virtual patient panel are to be developed through community service learning opportunities such as the Geriatrics clinic at senior public housing. Each IPE team will have quarterly visits with their patients and caregivers to address an array of chronic illnesses that progress over time. Teams will use the Wagner Chronic Care Model to guide their patient engagement and seek evidence – based interventions that best address population health metrics. This educational product is developed similarly to the GeroChampion patient simulation game, only population health metrics will be used for awards rather than patient assessments and outcomes. IPE teams gather points from both the virtual and real patient panels towards becoming Population Health Champions. Teams will have IPE mentors to assist and evaluate their progress.

The third Educational PDSA for engagement integrates Geriatric education through social media. To this end, the recently published Geriatric Twitter Poll by the PD12 will be further developed as an inter – professional educational tool that utilizes the principle of learning through asking questions and reflecting on answers. To enhance content, Twitter Poll questions will add videos and pictures of Geriatric problems (such as gait disturbances). Furthermore, the Twitter Poll answers will be enhanced with annotated citations from the medical literature. This platform will be tested for its efficacy through “time – space” content delivery such as would occur if Twitter Poll questions are presented concurrently with student conferences, simulations
or other teaching modalities. Because we discovered that medical students learned more from Geriatric Twitter Poll by working in groups than individually, an additional goal of this project is to form inter - professional teams. Evaluation of the projects impact will include pre and post testing results as well as tests to evaluate retention. Mock and real licensing exam scores will also be used to monitor project efficacy. Inter-professional competencies will be evaluated by Qualtrics surveys.

In addition to Educational PDSA projects for engagement, the Dakota GWEP tests other educational PDSA cycles of change through more traditional educational offerings. Project ECHO for tele-mentoring will be expanded to include Geriatrics. Currently, the UND Center for Rural Health manages ECHO - Opioid to assist primary care teams manage opioid misuse. Using this platform, we will add monthly sessions that cover essential Geriatric and ADRD topics. We will include teams from nursing homes in addition to primary care. The goal is to utilize expert Geriatric teams to engage primary care providers through multi - point videoconferencing and develop Geriatric team consultations through telehealth. Use of this guided practice model is expected to improve Geriatric assessment and management of older adults, especially in rural areas and Indian country.

Given that North and South Dakota health care manpower needs are short 60 Geriatricians, "train the trainer" program in Geriatrics is a critical need for our academic programs. Two options are available to new and established primary care physicians: i) part time Geriatric fellowship or ii) GeroChamp certification through an on - line and mentored program. For option 2, we adapt CHAMPS curriculum to a primary care focus, using the underlying concept of having faculty identify teachable moments in Geriatrics. The on – line curriculum uses the ACGME milestones for Geriatric fellowship. The health care provider (Sanford Health) provides administrative release time for faculty to complete the curricula as well as participate in mentored Geriatric clinics (CGA, Fall Prevention, and Memory Disorders). Also, Sanford Health will incorporate our curriculum into their on-line Success Center which houses Sanford Learning Solutions.

To foster inter - professional faculty development in Geriatrics, the Dakota GWEP will sponsor a Dakota IPE teaching academy with quarterly workshops for primary care providers (MD, DO, ANP) and allied health professionals. These workshops will be based on active learning whereby faculty teams develop evidence - based solutions for problems identified in a clinical vignette. The on – line curriculum developed for primary care providers will be modified with nursing content as pulled from the Geriatric Review Syllabus for Nurses and Allied Health Professional training programs obtained from UND and other university’s that have Geriatric curriculum (e.g., Creighton University’s Geriatric PT program).

To achieve objective 3 that integrates Geriatrics into Primary Care, clinical partners with the Dakota GWEP will enroll primary care teams into the Institute for Healthcare Improvement Action Community on Age Friendly Health Systems. The primary care teams will focus on the primary care component of the Age Friendly collaboration, addressing the four Geriatrics M’s: what matters, medications, mobility and mentation. Each team will create PDSA cycles of change to transform their clinical operations in a Geriatric savvy clinic. For example, to address mobility, teams could test the use of elderly gait speed as a means to identify patients who walk less than 1 m/s and therefore are high risk for falls. To address another Geriatric 4M, medications, teams may test a medication screening tool (e.g., Beers Criteria) to help with a de-prescription process and improve elderly safety through reduction of high risk medications. The Dakota GWEP will track the PDSA cycles of change and assist the teams with data collection.
Monthly debriefings will be organized between the primary care teams and the Dakota GWEP to assess and solve barriers as well as share successes within the Action Community. Clinical partners are expected to send two teams annually to the IHI Action Community, thus “Geriatricizing” at least 33% of primary care clinics. Because the Dakota GWEP engages their clinical partners on an enterprise-wide basis, many of the changes in older adult care piloted by the first wave of clinical teams are expected to be disseminated system-wide, thus achieving 100% transformation of primary care into Age Friendly operations.

Because North and South Dakota rank amongst 4 states with the highest prevalence of Alzheimer’s Disease according to the CDC, the Dakota GWEP places great importance on achieving goal 4 which is to strengthen and expand education in Alzheimer’s Disease while improving dementia care. To achieve this goal, the Dakota GWEP will adopt the HRSA curriculum for providers and public on Alzheimer’s Disease and Related Disorders. Dissemination of the HRSA ADRD training modules will be coordinated by the Dementia Care Innovation committee (Team 3) composed of members from the GWEP’s partners in academia, health care, and community. Key community members include State of North Dakota Division of Health Promotion, state AARP, state Alzheimer’s Association, Memory Café, and Great Plains QIO. The HRSA ADRD curriculum will be integrated into patient group visits, public seminars, and on-line curriculum. The on-line curriculum will be linked to the new State-sponsored website on Senior Health Promotion. The overarching goal is to transform providers so they think about patients with dementia rather than as “demented patients” and to reduce caregiver stress and burnout through caregiver training.

*How is the project innovative?* Four of the educational projects are innovative: enhanced curricular engagement through learner competition and gamification (GeroChampion), integration of curriculum through social media (Geriatric Twitter Poll), active learning modules, and population health simulation for inter-professional competencies. Clinical innovations from the project include transformation of the PCMH into a health care triad (patient – provider – community worker) and the creation of a Senior Health Promotion web portal linked to health coaches (see https://yourjuniper.org/ as an example).

*What are the types and numbers of trainees?* Health professional trainees include students of medicine (n=320), nursing (n=800), social work (n=200), psychology (n=48), pharmacy (340), physical therapy (n=400), occupational therapy (n=400), sports medicine (n=160), physicians assistants (n=400), CNAs (n=50), and community health representatives (Indian Health Service, n=12). Post graduate trainees include residents from family medicine (n=72), internal medicine (n=48), psychiatry (n=20) and Geriatric fellows (n=4) as well as nurse practitioners (n=40), pharmacy residents (n=100) and graduate trainees of the Allied Health Professions (n=36). Primary care providers for urban, metropolitan and rural partnerships include PCMH (n=37), rural clinics (n=35) and Indian health (n=2) which represent ~400 primary care team members out of 1200 community based faculty. Public trainees will be older adults, caregivers and their family members in North and South Dakota (n=200,000), including elders from the 14 tribal reservations (16,000).

*How will the Dakota GWEP partnership’s training activities integrate older adult healthcare and promote age and dementia friendly communities?* UND ranks first in medical schools across the country for producing primary care doctors. We know that one third of our medical
students and two thirds of our residents stay in – state, thus each wave of students and trainees exposed to Geriatrics and ADRD curriculum will further advance Age and Dementia friendly communities within the Dakotas (health care and the general community). We already see this progress through the Geriatric Twitter Poll project where medical students improve their Geriatrics knowledge and skills, on average, by 15.5%.

The Dakota GWEP will accelerate health care transformation through existing collaborations in older adult and dementia healthcare by adding IHI Age Friendly Action Communities. We expect healthcare transformation in primary care to span the continuum of care through our partnership structure that includes clinics (Sanford, Rural health, and IHS), long term care (Good Samaritan Society) and assisted living (Edgewood). The strategic plan and outcomes for the Dakota GWEP are summarized in the Logic Model submitted under this application’s attachments.

(c) RESOLUTION OF CHALLENGES

Several challenges are anticipated in fully meeting all four goals of the Dakota GWEP. Many of these challenges relate to stakeholder biases such as ageism, providers and patients not knowing what they don’t know, and institutional undervaluing of Geriatrics. Table 3 provides some anticipated barriers and solutions to the project’s objectives, noting that all operations (educational and clinical) will be managed through PDSA cycles of change and these PDSA cycles will be tracked and assessed by GWEP leadership. Additional tools will be monthly “huddles” with the Innovations Teams, SWOT analyses (strength, weaknesses, opportunities and threats), as well as Root Cause Analysis.

<table>
<thead>
<tr>
<th>Goal</th>
<th>Challenges</th>
<th>Potential resolutions</th>
</tr>
</thead>
<tbody>
<tr>
<td>GWEP Partnerships</td>
<td>Partial or full disengagement from the Action Community</td>
<td>Regular communications, GWEP financial support, Institutional and state endorsement</td>
</tr>
<tr>
<td>Geriatric training</td>
<td>Lack of time or interest</td>
<td>GeroChampion certification, Gamify curricula &amp; add competition for better engagement, Partners allocate time for trainees, Amplify training through GWEP’s social media projects</td>
</tr>
<tr>
<td>Integration of Geriatrics into primary care</td>
<td>Conflict with clinical productivity No clinical release time</td>
<td>Clinical partners shift to value-based measures of provider impact, Clinical partners support administrative time for PDSA cycles of change</td>
</tr>
<tr>
<td>ADRD training and clinic redesign</td>
<td>Competing clinic operations Out of sight, out of mind</td>
<td>Curricular gamification, Change from individual to group clinic visits, Infuse patient education about “health minds”</td>
</tr>
</tbody>
</table>

IMPACT

(a) EVALUATION AND TECHNICAL SUPPORT CAPACITY:

Analytical support for the project will come from Innovation Team 4 which includes the UND Department of Geriatrics, UND Department of Education, the North Dakota Center for Rural Health (CRH), Sanford Health, Good Samaritan Society, Rural CAH Quality network, Great Plains QIO and the State of North Dakota Division of Health Promotion. All these partners are experienced with HRSA and CMS projects (e.g., Project ECHO Opioid, Rural
Palliative Health, Mental health integration into primary care, Native American aging in place and elderly neglect), thus, they have the experience and infrastructure to gather and interpret data for local, state and federal purposes. Notably the ND – Center for Rural Health publishes a biennial report on health workforce issues (Vital signs) and state health issues (The ND Biennial Report). The Great Plains QIO tracks several CMS MIPS in the Dakotas such as the rate of antipsychotic medication use in long term care and antibiotic overuse.

Technical support for the GWEP includes web – masters from CRH, UND biostatisticians, Sanford Health quality assurance office, UND and Sanford telehealth and teleconferencing staff, Sanford clinical decision support and patient education teams, and electronic medical record support (EPIC). The Rural CAH network similarly provides technical support for data collection and analysis. Importantly, this project uses Dashboards for process and outcome measurements. It also will post and track PDSA cycles of change as they relate to educational and clinical projects.

The project evaluation plan includes education and training measurements. Table 4 provides an overview of how the educational metrics will be assessed.

Table 4. Evaluation process of educational products

<table>
<thead>
<tr>
<th>RQ</th>
<th>Mechanism</th>
<th>Data Sources</th>
<th>Evaluation Process</th>
</tr>
</thead>
<tbody>
<tr>
<td>Were high-quality partnerships established among stakeholders?</td>
<td>Team-Building GeroChampion Incentives</td>
<td># of events Completion rates # of participants # Stakeholders</td>
<td>Disaggregated descriptive statistics Regression/ANOVA/ANCOVA/MANO VA of intervention/group differences on outcomes</td>
</tr>
<tr>
<td>Did stakeholders acquire the required geriatric principles of health care?</td>
<td>PDSA Cycles Vignettes IP Education Twitter Poll GeroChampion Patient Panel Game Social Media</td>
<td>Participation Rates, Completion Rates, Scores, Completion Participation</td>
<td>Disaggregated descriptive statistics Inferential statistics</td>
</tr>
<tr>
<td>Has geriatrics been integrated into primary care?</td>
<td>IHIAC-AFHS</td>
<td># Debriefings Survey Data</td>
<td>Disaggregated descriptive statistics Inferential statistics</td>
</tr>
</tbody>
</table>

The project evaluation plan includes 5 MIPS MEASURES to show program clinical impact. The Great Plains QIO and our health partners will provide data aligned with our 5 MIPS Measures (Dementia Caregiver Education and Support, Opioid misuse risk assessment, Advance Care documentation, Fall risk assessment, and Medication risk assessment). Project impact includes an evaluation of patient access (number of patients receiving geriatric assessments in primary care) and cost measures (number of patients seen in ED for falls). Data from PDSA cycles of change will also be evaluated to track each of the Geriatric 4M’s as a proxy measure for how well our health partners create Age Friendly Health Care Systems. Each of the academic partners will assist in tracking the number of trainees and faculty trained in Geriatrics and ADRD as well as map Geriatric and IPE competencies to their curriculum. The Dakota GWEP and its partnership with the CRH will track the number of GeroChampion certificates obtained annually. The number and subject of PDSA cycles of change for education and clinical redesign will be similarly tracked and reported on the GWEP web site.
The Dakota GWEP is interested in increasing Geriatric quality of healthcare while reducing costs, so it will engage health economists to evaluate the financial impact of training and clinical redesign programs (e.g., reduction in acute care utilization after integration of geriatrics into primary care). We recently published on how our Dakota partnership called OneCare for Seniors reduced nursing home patient readmissions by 1.8%. Thus, our health systems analytic support along with the Great Plains QIO will assist in measurement of changes in elderly use of emergency departments, hospitalization and acute care recidivism.

The impact of the Dakota GWEP on improving the quality of older adult health care is measured in both process and outcome measurements. For instance, we know if Geriatrics has been integrated into primary care by tracking the number of elderly screened for falls, memory loss, dangerous medications (including opioids) and advanced directives. We know if the functional outcomes of older adults is improving by tracking changes in their gait speed and ADL/IADLs. We know if we integrated more community health options through the clinics by assessing the number of patients referred to community based programs such as Memory Café, caregiver training or the health promotion web portal that we will build with the State Division of Health Promotion. We monitor population health metrics (such as vaccination rates and time spent in physical activity) to assess the efficacy of our health care redesign and training programs. To address cultural diversity and under-resourced populations, we evaluate the use of geriatric telehealth, Echo and ADRD training programs with vulnerable populations (rural, Native Americans, veterans and aging adults with developmental disabilities). The overall impact of the Dakota GWEP on improving Geriatrics knowledge, skills and attitudes is assessed through examinations, surveys, focus groups, and clinical observation.

(h) PROJECT SUSTAINABILITY. Rapid Cycle Quality Improvement is used to inform strategic planning towards Dakota GWEP sustainability. Project sustainability includes development and continuation of educational products, maintenance and spread of clinical redesign, and operational resources. Sources of future program revenue include app fees from educational materials, clinical contracts, grants, repurposing state and private funds, and “routinization” of project goals into clinical operations.

PDQA cycle 1 focuses on how to highlight key project elements. This cycle links clinical education and healthcare redesign to improving healthcare outcomes while reducing costs. As an example, we reported at the AGS annual meeting how our pre-GWEP actions lowered health care costs by reducing hospital recidivism through integration of Geriatric expertise in a community – hospital consortium. Strategies to support dissemination of our evidence - based products include peer – reviewed publications, presentations at national meetings, reports to executive leaders of health systems, social and regular media, web portals, and public forums.

PDQA cycle 2 addresses future funding for the project. Several cycles of change will be designed to increase contracts and grants, create consulting services and redistribute or repurpose funds to support the GWEP. Conversion of our gamified curriculum into an application (app) can provide program income from future users. Contracts between academia and healthcare partners are a tested source for the GWEP. To date, the PD has increased faculty support by 1.3 FTEE through university contracts with community health care providers. These contracts support GWEP goals of healthcare redesign where Geriatricians help the healthcare system integrate Geriatrics into primary care. Grants are another source of support as evidenced by the Geriatric fellowship funded by a recurrent state grant ($0.5M) from the ND Health Workforce Initiative. One of the GWEP partners, the Center for Rural Health is 90% funded by grants and
contracts from federal, state and private sources, thus leading the way for GWEP sustainability. In terms of creating consulting services, we anticipate that future hospital accreditation will include Age Friendly certification, thus our inter – professional Geriatric experts will be a clear resource for regional health care systems. Also, training programs affiliated with these health systems will need Geriatric curricular content for their accreditation, thus providing another avenue for contractual relationships with GWEP faculty. In addition to grants, contracts and services, repurposing funds for new priorities is another mechanism to support GWEP activities. As an example, we plan to create a Dakota Teaching Academy and will transform it into a multi-university center for inter – professional education, thus sustaining the GWEP goal of training the trainers. Another example of reallocation of funds to support the GWEP is evidenced in this application whereby the PD allocates endowment funds to support 50% of the GWEP commitments by Geriatric faculty and staff.

Finally, our overarching strategy for sustainability is to incorporate GWEP goals and products into regular educational and clinical operations, a process we call “routinization.” We’ll recognize this process by the number of primary care clinics that sustain integration of geriatrics into primary care through adoption of newly advanced, evidenced - based assessments and interventions in Geriatrics. Routine incorporation of our educational products will be evidenced by the number of health trainees and training programs that adopt our IPE products such as Gerochamps, Geriatric Twitter Poll, and Population Health simulation.

Timetable for becoming self - sufficient:

<table>
<thead>
<tr>
<th>Year 1</th>
<th>Year 2</th>
<th>Year 3</th>
<th>Year 4</th>
<th>Year 5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Invest existing foundation funds</td>
<td>Faculty contracts &amp; training funds from health system partners</td>
<td>Grant application (Cargill, Hemsley)</td>
<td>Grant application, foundation support</td>
<td>Transform teaching academy into multi-university center</td>
</tr>
<tr>
<td></td>
<td></td>
<td>Convert gamified educational products into an app for subscription.</td>
<td>Contract with health partners to integrate geriatrics into primary care.</td>
<td></td>
</tr>
</tbody>
</table>

What are the challenges to sustaining a GWEP?
Barrier 1: Competing priorities among the partners. Sustainable geriatrics care is potentially solved by better stakeholder engagement and updating leadership on a regular basis, including reports on lower costs as a result of better older adult healthcare.
Barrier 2: Depth of Geriatric and ADRD expertise. A region short 60 geriatricians, needs to entice more trainees into 2 new geriatric fellowship programs through incentives (pay, part-time training & loan forgiveness) and create Geriatric programs to retain these trainees. Similar incentive & retention programs are needed for allied health professionals. The ND health workforce initiative and hospital support are two sources to assist. Joint recruitment of Geriatric expertise by academic and community health care partners will strengthen Geriatric expertise.
Barrier 3: Challenges to IPE. At least 9 barriers to IPE have been cited. The biggest IPE barrier is lack of faculty experience, and the Dakota Teaching Academy for IPE helps address this barrier.

ORGANIZATIONAL INFORMATION, RESOURCES AND CAPABILITIES
What is your capacity to manage the project? The Dakota GWEP is housed at UND School of Medicine and Health Sciences and its Department of Geriatrics. UND SMHIS utilizes community teaching hospitals and is among the top 3 contributors to building the nation’s family
physician workforce (18.7% of UND medical graduates go into FM versus the national average of 8.6%). UND has 8 health professional schools, all which intersect with the School of Medicine through the IPE Department. Campus resources to support the GWEPC include the Center for Rural Health, the Department of IPE, National Resource Center on Native American Aging, Indians Into Medicine (InMED), Recruitment of American Indians into Nursing (RAIN), Department of Population Health, and the Teaching Transformation & Development Academy. In terms of interdisciplinary Geriatrics training, UND sponsors 2 Geriatric fellowships in Fargo and Bismarck, adult gerontology - primary care nurse practitioner and doctoral programs, and a Gerontology minor for allied health professions. Academic partner, NDSU supports geropharmacology that intersects with UND’s IPE program. Likewise, academic partner, SDSU supports a BSN minor in gerontology and graduate degree programs in gerontology. All academic partners utilize GWEPC health partner, Sanford Health, for their clinical training sites. Sanford Health has an Office of Education that supports patient, provider, and staff training. Each academic partner has Geriatrics - trained faculty. The UND Geriatrics Department, one of 10 in the country, has 10 interdisciplinary faculty, six whom are board certified Geriatricians. The department has a PhD Education Director, 4 regional educational coordinators and an administrative assistant.

The project’s director is a board - certified Geriatrician and Professor of Geriatrics who is a physician-scientist with extensive experience and knowledge of federally supported center grants. The PD has past experiences as a core director for a NIH funded Alzheimer’s Disease center, Roybal Center on Social Gerontology, and more recently serves as chairman of the national advisory board for the CatchON GWEP. The PD has managed multi-million dollar clinical and research budgets over the past 30 years and has extensive knowledge of state and federal compliance matters. The PD has strong collaborative skills with a commitment to serving under-resourced populations. A recently developed community service learning project with under-resourced elderly in public housing and our Native American Aging in Place program attest to an inter-disciplinary interest in health equity for under-resourced populations.

The project’s associate director is a Professor and Associate Dean of Medical Education who has extensive experience in curricular engagement through gamification and active learning. He oversees IPE and thus provides the expertise to guide the GWEPC’s educational products and “train the trainer” program through the proposed Dakota IPE Teaching Academy.

The UNDSMHIS mission is to serve the health needs of all North Dakotans, and the Geriatrics Department (one of 10 in the nation) mission is “to make aging a thing of the past.” UNDSMHIS is conceptually and physically designed for IPE in its new building. While founded in North Dakota, the Dakota GWEPC’s mission of Geriatrics training and healthcare transformation extends to South Dakota as a natural alliance with our strong clinical partner, Sanford Health.

*What is the evidence for 20% time commitment to the project by the PD?* The PD allocates 25% effort to the project by reallocating effort from other educational commitments (i.e., Geriatric fellowship PD) and clinical commitments (i.e., nursing home). Because the PD is a Geriatrician embedded in primary care with the project’s clinical partner, Sanford Health, there is considerable spill over of project commitment related to clinical activities such as PSDA cycles of change for integrating Geriatrics into primary care. Furthermore, the PD’s pre-GWEPC role in IPE, faculty development, and community partnerships (e.g., QIO’s Improving Dementia Care) all intersect with GWEP objectives. Thus, the PD’s actual time commitment to the GWEP
will be closer to 50% given the planned continuance of pre - GWEP activities that meld with the GWEP work plan.

*What is the proof of resources to carry out GWEP activities and meet the needs of target populations?* Partnerships and reciprocal resources are outlined in table 5:

<table>
<thead>
<tr>
<th>Academic → Health Care partners</th>
<th>Health care → Academic partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Faculty provide education to providers, staff, and patients</td>
<td>• Supports academic salaries</td>
</tr>
<tr>
<td>• Faculty advise health care leadership on evidenced based Geriatrics</td>
<td>• Provides clinical training sites</td>
</tr>
<tr>
<td>• Faculty initiate Geriatric health care redesign</td>
<td>• Engages faculty &amp; trainees in QI and healthcare redesign</td>
</tr>
<tr>
<td>• Faculty &amp; trainees foster QI projects</td>
<td>• Clinical data support for faculty &amp; trainees</td>
</tr>
<tr>
<td>• Scholarly reports</td>
<td>• Office space for faculty &amp; trainees</td>
</tr>
<tr>
<td></td>
<td>• Telehealth platform</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Academic → Community partners</th>
<th>Community → Academic partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Faculty &amp; trainees provide patient education though the continuum of care</td>
<td>• Provide clinical training sites (e.g., faith community nursing &amp; senior centers)</td>
</tr>
<tr>
<td>• Faculty serve as consultants to QIO, AlzDx Association, and State Div. on Aging</td>
<td>• Advise faculty about client needs (e.g., social determinants of health)</td>
</tr>
<tr>
<td>• Faculty educate community health workers</td>
<td>• Provide analytics and data (e.g., ADRD state report, Rural Health report)</td>
</tr>
<tr>
<td>• Community service collaboration (Stepping On)</td>
<td>• Support project ECHO via rural health</td>
</tr>
<tr>
<td></td>
<td>• Access to target populations (InMed and National Resource Center on Native American Aging)</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Health care → Community partners</th>
<th>Community → Health care partners</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Demonstration projects (e.g., home paramedic program)</td>
<td>• State - supported Senior Health Promotion Web portal</td>
</tr>
<tr>
<td>• Patient education (on-line and face to face)</td>
<td>• Analytics (e.g., community needs assessment, rural health survey, state plan on aging, state plan on ADRD)</td>
</tr>
<tr>
<td>• Health promotion events (Flu vaccine blitz, Cure Loneliness)</td>
<td>• Quality improvement (e.g., QIO programs to improve dementia care &amp; antibiotic stewardship)</td>
</tr>
<tr>
<td>• Create consortiums for improved healthcare (e.g. OneCare for Seniors)</td>
<td></td>
</tr>
<tr>
<td>• Admin support for Faith Community RN, Memory Café and Senior Centers</td>
<td></td>
</tr>
</tbody>
</table>

Resources for the project’s educational products include a subcontract with Triad Interactive Media to gamify our on – line curriculum that will be obtained from the CatchON GWEP, UND Geriatrics, National Resource Center on Native American Aging, and HRSA’s ADRD training modules. We will also access Eastern Virginia Medical School’s Virtual Family for population health simulation and create our own patient panels via Academic EPIC\.

POGOe and the GWEP clearing house will be other sources for Geriatrics and ADRD curriculum. Interprofessional training curriculum will be adapted from Reynold’s foundation product CHAMPS.
and AHQR Team STEPPS. Resources for health care redesign are derived from the IHI Age Friendly Health Systems program. Resources for analytics are supported by Sanford Health, Health Associates QIO, Center for Rural Health and the Rural Quality Network. Tribal data will be sought with permission from Tribal Councils, using survey forms created by the National Resource Center on Native American Aging. For scholarly products, UND provides biostatistical support through the School of Public Health.

INTERDISCIPLINARY PARTNERING, EDUCATION AND TRAINING.

The Dakota GWEP assures interdisciplinary partnering by design. The national and regional advisory councils are composed of interdisciplinary experts in Geriatrics and ADRD (see Other Attachments). UND School of Medicine and Health Sciences is at the forefront of IPE having designed its new building around 4 geographic IPE centers. It uses Team STEPPS curriculum from AHRQ https://www.ahrq.gov/teamstepps/index.html to foster inter-professional competencies. It aligns 9 health professions and to date has trained 3,900 students.

The Dakota GWEP codifies interdisciplinary partnering and education by creating the Dakota IPE Teaching Academy. This academy supports “train the trainer” through an inter-professional lens and team – based care. Steeped in learning sciences, the academy supports instructional design, assessment, technology and delivery. These services will be augmented with the UND Teaching Transformation & Development Academy (TTaDA) which supports faculty learning communities (https://und.edu/academics/ttada/). The Associate Director of this project is a founding faculty member for the TTaDA and oversees the Office of Interprofessional Education at UND SMHS, thus serving as a key catalyst for the Academy.

The Dakota IPE Teaching Academy extends to other state, community and tribal colleges engaged in training health professionals. The inclusion of NDSU Pharmacy and SDSU Nursing is a first step in strengthening inter-disciplinary partnerships in the region. Educational products generated by this GWEP specifically support IPE: population health simulation for IPE team competition, Geriatric Twitter Poll for IPE teams, and gamification of the GeroChampions on – line curriculum. IPE partnering is further supported by simulation and community service learning opportunities in public housing and Federally Qualified Health Centers. All these educational offerings are developed with inter – professional faculty in medicine, nursing, pharmacy, and allied health professions.

Clinical efforts to create age and dementia friendly operations will engage community partners, families, caregivers and patients. The goal is to convert the traditional provider – patient dyad into a triad relationship of “provider-patient-community worker.” For example, incorporation of caregiver training into the “Geriatricized” PCMH will engage patients and families with primary care teams as well as with community partners such as faith community nursing, Memory Cafes and the state Alzheimer’s associations. Our intent to create a Senior Health Promotion web portal that’s connected to the electronic medical record is another example of multi-partner engagement with participants from the State, academia, health care and community. Team – based education and training for ADRD occurs through HRSA training modules and our plans to support an annual ADRD symposium focused on team approaches to dementia prevention and care. In parallel, community presentations will include multi-disciplinary faculty as expert panels as well as community Senior Health Ambassadors.

Knowing that group education achieves more knowledge and skills than individual effort, we believe that our inter-professional partnering and team based care will greatly improve the quality and lower costs of older adult healthcare. Our pre-GWEP partnerships already demonstrate this effect. Our OneCare for Seniors program (an academic, community and
healthcare partnership) reduced hospital recidivism among nursing home patients by 2% and increased the numbers of older adults with advance care directives. Our collaboration with allied health professions and Geriatricians reduced falls by 50% in a targeted population of community dwelling elderly, and we effected healthcare redesign though inter-professional efforts to pilot fall risk assessments in our annual Flu Vaccine Blitz. Thus, our inter-professional education and training is expected to transform clinical practice and improve health outcomes such as patient safety and function that will be measured and reported as part of the Dakota GWEP analytics.
Attachment 1. WORK PLAN

Goal 1. Activate Dakota GWEP partnerships

Measurable outcomes: Number of organizational meetings, strategic plan, create innovation teams, identify first wave PDSA cycles of change, establish internet resources and communication, key personnel hired.

<table>
<thead>
<tr>
<th>Major Objectives</th>
<th>Key tasks</th>
<th>Person Responsible</th>
<th>Start Date</th>
<th>End Date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Communication</td>
<td>Web site</td>
<td>Assist PD &amp; Rural Health</td>
<td>07/01/2019</td>
<td>08/30/2019</td>
</tr>
<tr>
<td>Operations</td>
<td>Innovation Team meetings PDSA Cycles Hire personnel</td>
<td>PD and Assistant Directors</td>
<td>07/01/2019</td>
<td>09/30/2019</td>
</tr>
<tr>
<td>National Advisory Council</td>
<td>Review GWEP strategy, projects, progress, barriers and solutions Schedule for quarterly meetings</td>
<td>Prohaska (health promotion), Gwyther (social work), Palm (rural health), Warne (Indians into Med), Barzil (Geriatrics), Roux (IPE) Administrative assistant</td>
<td>07/01/2019</td>
<td>09/30/2019</td>
</tr>
<tr>
<td>Regional Advisory Council</td>
<td>Review GWEP strategy, projects, progress, barriers and solutions Schedule for monthly meetings</td>
<td>PD, Assoc PD, Assist Dir and representatives from each partner (academic, health, community)</td>
<td>07/01/2019</td>
<td>09/30/2019</td>
</tr>
<tr>
<td>Analytics</td>
<td>Plan for measuring MIPs and other health outcomes Dashboard creation</td>
<td>Analytics Director from Rural Health and analysts from health partners (Sanford, rural and IHS)</td>
<td>07/01/2019</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Curriculum engagement</td>
<td>Gamification of curriculum and IPE competition</td>
<td>PD and consultants</td>
<td>08/01/2019</td>
<td>09/30/2021</td>
</tr>
</tbody>
</table>

Goal 2. Increase Geriatrics education and engagement

Measurable outcomes: Web – based content, number of trainees engaged, number of Gero Champ certificates awarded

<table>
<thead>
<tr>
<th>Major Objectives</th>
<th>Key tasks</th>
<th>Person responsible</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Web – based curriculum</td>
<td>Assemble learning modules Gamification</td>
<td>Innovation Team 1 and assistant PD Med Ed consultant and Triad Interactive Enterprises</td>
<td>07/01/2019</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Gerochampion certificate</td>
<td>Align curricular points with accomplishment</td>
<td>Assist PD Team 1</td>
<td>01/01/2020</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Echo Geriatrics</td>
<td>Monthly sessions Topics Mentors</td>
<td>PD and CRH Echo Director</td>
<td>01/01/2020</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Geriatric Twitter Poll</td>
<td>IPE curriculum Weekly posting</td>
<td>PD, Assist PD and Ad Assist</td>
<td>01/01/2020</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>------------------------</td>
<td>-------------------------------</td>
<td>-----------------------------</td>
<td>------------</td>
<td>------------</td>
</tr>
<tr>
<td>Inter-professional population health team competition</td>
<td>Create virtual and live patient panels Form IPE teams Metric Dashboard Team mentors</td>
<td>PD and Assoc PD and Triad Interactive Enterprises</td>
<td>09/01/2019</td>
<td>06/30/2022</td>
</tr>
<tr>
<td>Community service learning and IPE</td>
<td>Expand inter-professional faculty and students</td>
<td>PD and faculty reps from CON, PT, Social work, Pharm</td>
<td>01/01/2020</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Dakota Teaching Academy for Inter-professional Education</td>
<td>Adapt CHAMPS curriculum Faculty Faculty workshops</td>
<td>PD, Assoc PD &amp; consultant, Innovation Team 1</td>
<td>01/01/2020</td>
<td>06/30/2024</td>
</tr>
</tbody>
</table>

**Goal 3. Integrate Geriatrics into Primary Care**

Measurable outcomes: Number of teams enrolled in IHI, number of PDSA cycles, percent teams achieving all Geriatric 4M’s in progress notes, changes in 5 MIPS, acute care use (hospital and ED)

<table>
<thead>
<tr>
<th>Major Objectives</th>
<th>Key tasks</th>
<th>Person responsible</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Enroll primary care teams from Sanford Health in IHI</td>
<td>Team enrollment Curriculum Rural &amp; Indian specific Team meetings Track PDSA cycles Analytics</td>
<td>PD and Assist PD for Innovaton Team 2</td>
<td>07/01/2019</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Enroll primary care teams from rural health (Sakakawea) in IHI</td>
<td>Team enrollment Curriculum Rural &amp; Indian specific Team meetings Track PDSA cycles Analytics</td>
<td>PD and Assist PD for Innovaton Team 2</td>
<td>07/01/2019</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Enroll primary care teams from IHS (Spirit Lake) in IHI</td>
<td>Team enrollment Curriculum Rural &amp; Indian specific Team meetings Track PDSA cycles Analytics</td>
<td>PD and Assist PD for Innovaton Team 2</td>
<td>07/01/2019</td>
<td>06/30/2024</td>
</tr>
<tr>
<td>Web portal for health coaches</td>
<td>Create a web portal for health promotion modeled after “yourjuniper”</td>
<td>Reps from QIO, Sanford, State, and Assist PD</td>
<td>09/01/2019</td>
<td>08/31/20</td>
</tr>
<tr>
<td>EMR order set for health promotion</td>
<td>Add provider orders in EMR to refer patients to the State Portal and Health Coach</td>
<td>Assist PD team 2</td>
<td>01/01/2020</td>
<td>12/31/2020</td>
</tr>
<tr>
<td>Systematize PDSA cycles of change for integration of geriatrics into primary care</td>
<td>Train teamlets in QI Track PDSA cycles Report changes Disseminate change</td>
<td>Assist PD, team 2 and IHI staff, and Sanford QI staff</td>
<td>07/01/2020</td>
<td>06/30/2024</td>
</tr>
</tbody>
</table>
Goal 4. Strengthen and expand Alzheimer’s education and dementia care

Measureable outcomes: number of caregivers trained, number of PCMHs creating group meeting dementia care with patients and caregivers, number of faculty and trainees educated in ADRD, number of attendees at inter-professional conferences on dementia, number of meetings and workshops with community organizations.

<table>
<thead>
<tr>
<th>Major Objectives</th>
<th>Key tasks</th>
<th>Person responsible</th>
<th>Start date</th>
<th>End date</th>
</tr>
</thead>
<tbody>
<tr>
<td>Caregiver training</td>
<td>Standardize content for PCMH group meetings on dementia and caregiving</td>
<td>Assist PD, Innovation team 3 and ADRD coordinator</td>
<td>09/01/2019</td>
<td>08/31/22</td>
</tr>
<tr>
<td>On-line ADRD curriculum</td>
<td>Integrate HRSA curriculum into Dakota on-line curriculum and Teaching Academy</td>
<td>Assist PD, Innovation team 3 and ADRD coordinator</td>
<td>09/01/2019</td>
<td>08/31/22</td>
</tr>
<tr>
<td>Community outreach</td>
<td>Memory café events Faith Community Nursing Senior Center seminars</td>
<td>Assist PD, directors of Memory Café and Senior Centers</td>
<td>01/01/2020</td>
<td>06/30/24</td>
</tr>
<tr>
<td>Dementia Care Symposium</td>
<td>Organize annual inter-professional conference of evidence based practices in dementia prevention, assessment, care and caregiving</td>
<td>Assist PD, Innovation team and ADRD coordinator</td>
<td>01/01/2020</td>
<td>06/30/24</td>
</tr>
</tbody>
</table>

Statement of institutional documentation of funds: University of North Dakota Office of Research follows policies for funds distribution and auditing as described in the Electronic Code of Federal Regulations (www.ecfr.gov). Funds for subcontracts require annual reports of deliverables and certification by the project director as well as documentation of Conflicts of Interest.
Attachment 2: Dakota GWEP Staffing Plan and Job Descriptions of Key Personnel


Program Director
Name: Donald A. Jurivich, DO
Role: The PD provides leadership and oversight of all operations related to the Dakota GWEP. This role includes creating a vision and culture of change and improvement. The programmatic vision is to improve access to high quality healthcare through inter-professional Geriatrics training and health care redesign. The PD inculcates values for the GWEP which include collaboration, innovation, inter-professionalism, mindfulness of cultural diversity and under-resourced populations, attention to social determinants of health, health systems rigor through evidence-based medicine and PDSA cycles of change, and accountability. The PD has a primary role of guiding, coaching and generally motivating partners and participants to incrementally achieve the 4 goals of the Dakota GWEP.
Responsibilities: The PD assures timely and effective communications for the GWEP: i) convene the national advisory council quarterly, ii) convene the regional advisory council monthly, iii) meet with leadership and innovation team leaders monthly, iv) attend annual HRSA meeting, v) attend GWEP symposium at AGS and GSA annual meetings, vi) engage the Hartford GWEP Coordinating Center, vii) meet with analytic team monthly and then quarterly, viii) meet with consultants for curricular gamification weekly then bimonthly, ix) meet with webmasters weekly and then monthly, x) meet with grants management quarterly for time keeping evaluation. The PD provides expertise and guides efforts in Geriatric and inter-professional education, healthcare redesign, and quality improvement. The PD monitors programmatic progress through PDSA cycles of change, dashboards of programmatic and health metrics, and reports from innovation teams. The PD is responsible for addressing recruitment and retention of personnel and partners as well as advancing knowledge of GWEP accomplishments through scholarly reports. The PD also addresses project barrier and potential solutions using SWOT and Root cause analysis. The PD cultivates resources to sustain the Dakota GWEP and to expand its reach, particularly with Native American and rural populations.
Qualifications: The PD is a board-certified internist and Geriatrician (Duke) who is trained as a physician-scientist investigating human aging, stress responses and Alzheimer’s Disease. The PD is a former RW Johnson scholar with extensive experience in chronic disease models of care and PDSA – guided healthcare improvement. The PD is a professor and chair of the newest Geriatrics Department in the country and has extensive leadership experience with large centers such as being the educational director of NWU Alzheimer’s Disease Center, medical director of the UIC Roybal Center, and chairman of the CatchON GWEP national advisory board. The PD founded the 1st ever fellowship in North Dakota and has an extensive record of building community service learning for inter – professional education, especially for under-resourced populations. The PD brings innovation to IPE as evidenced by the recent report on Geriatric Twitter Poll to strengthen Geriatric knowledge. The PD initiated the AGS leadership course and
served as a national faculty member for the VA PACT roll-out. Overall, the PD has the education and experience to lead the Dakota GWEP.

**Associate Program Director**
Name: Richard VanEek  
Role: GWEP Associate Director  
Responsibilities: As Associate Dean of Medical Education at UND, the Associate Director oversees the gamification of online educational content and the development of the population health simulation for interprofessional education. Duties include collaborating with Triad Interactive Services to create a reward system through point accumulation such that learners can accumulate sufficient levels of expertise to achieve Gero Champ status. Other duties include collaboration with Innovation Teams 1 and 3 to develop a virtual patient panels that will be used for population health simulation and competition among interprofessional teams of health care students (medical, nursing, social work, PT, PA, Pharm D). Qualification (education and experience): The Associate Director is a Professor of Education and Associate Dean of Medical Education at UND SMHS. He is an expert at gamification of curriculum to enhance learner engagement.

**Assistant Director**  
Name: Gunjan Manocha, PhD  
Role: The Assistant Director is responsible for all elements of curriculum development, delivery and assessment for both the Geriatrics and ADRD content and oversees Innovation Team 1 which is charged with the inter – professional curricular projects in Geriatrics (see org chart).  
Responsibilities: The Assist Director reports to the PD and Assoc PD. She manages the program assistant and the four innovation teams (Geri education, Integration of Geriatrics into primary care, dementia care, and partnerships) creating a work schedule and tasks. The Assist Director oversees the GWEP schedule of events and deliverables. She tracks project progress and serves as a liaison to the project’s consultant and subcontractors, assuring deliverables are provided in a timely and high quality manner. The Assist Director is responsible for gathering program data from the analytic team and creating a Dashboard of Metrics and PDSA cycles of change (both educational and clinical). The Assistant Director oversees the team responsible for the web site. Other duties include general communications, problem solving, logistical support, and overall operational integrity.  
Qualifications (education & experience): Dr. Manocha holds a PhD degree in biomedical sciences with extensive publications on models of Alzheimer’s Disease. She is an assistant professor and Director of Education for the UND Department of Geriatrics. She is the program assistant for the UND Geriatrics Fellowship which recently was accredited with merit by the ACGME. Dr. Manocha has considerable experience teaching geriatric fellows, residents, graduate students, and preclinical students in medicine and allied health professions. She is also an expert in trainee and curricular evaluations along with electronic tracking of competencies and performance. She is highly organized and attentive to details.

**Assistant Director**  
Name: Allison Suttle, MD
Role: The assistant director for Innovation Team 2 oversees the integration of Geriatrics into primary care through the action community initiative with the IHI Age Friendly health care systems.

Responsibilities: The assistant director provides the logistics for teamlets from Patient Centered Medical Homes and traditional primary care programs to engage the IHI collaboration that focuses on transforming clinics into an age friendly operations, addressing the Geriatric 4M's (what matters, mentation, mobility, and medications). As the Chief Medical Officer for Sanford Healthcare system, the assistant director will help guide PDSA cycles of change towards age friendly clinics, monitoring teams’ progress and helping address barriers and solutions. The assistant director will provide technical and data support for the PDSA cycles as well as facilitate dissemination of best practices. Sanford Health covers urban, micropolitan, rural and Native American clinical operations across the Great Plains, thus allowing for the largest healthcare system in the Northern United States to integrate Geriatrics into Primary Care.

Qualifications (education & experience): Dr. Suttle is a board certified Family and Community Medicine physician who currently is the Chief Medical Officer for the largest health provider in the Great Plains, Sanford Health. Dr. Suttle brings considerable experience to the GWEP in organizational skills that address enterprise – wide changes. Both quality assurance and health metrics for the Accountable Care Organization and Medicare CPC Plus programs are channeled to her office. Additionally, her office oversees primary care operations and continual enhancement of the Patient Centered Medical Home (note: Sanford Health was an early adopter of the PCMH).

**Assistant Director**

Name: Victoria Walker, MD

Role: The assistant director for Innovation Team 3 oversees curriculum and training for dementia care.

Responsibilities: The assistant director integrates the HRSA curriculum and training for Alzheimer's Disease and Related Disorders into the Dakota GWEP partners’ curricula. The curricula addresses both health profession trainees and the community. This curriculum is to be integrated into the on – line curriculum that is gamified for achieving Gero Champ certification, ECHO telementoring, Geriatric Twitter Poll and IPE population health simulation. Furthermore, the assistant director will collaborate with Innovation Team 2 so as to create dementia training for the PCMH group visit, focused on reducing caregiver burnout and enhancing dementia care under the Geriatric 4M motif. This clinical training efforts include dementia training for frontline staff working in assisted living and long term care, in order to facilitate improved communication and expectations between family caregivers and paid caregivers. The assistant director is responsible for an annual symposium on dementia care that is coordinated with State Division on Aging, the regional QIO, state Alzheimer’s Associations, Memory Café, and academic partners.

Qualifications (education & experience): Dr. Walker is a board certified Family and Community Medicine physician and assistant professor of Family Medicine at Sanford Medical School. She currently serves as the Chief Medical Officer for Good Samaritan Society which recently
merged with Sanford Health. Good Samaritan Society is a not for profit organization focused on elderly living in assisted through skilled facilities across North and South Dakota. Dr. Walker has the organizational skills for enterprise – wide systems change and quality improvement. She is a certified medical director and is an expert in long term care QAPI.

**Director of Diversity**

Name: Jacque Gray

Role: The Director of Diversity oversees curricular content and training that addresses cultural competencies in healthcare, including diversity, disparities and social determinants of health. Responsibilities: Incumbent updates, integrates and expands curriculum from the previous GEC she led at UND. This on-line curriculum includes Native American Aging in Place, Elder abuse and cultural competencies for health professionals.

Qualifications (education and experience): Dr. Gray is an associate professor and member of the Center for Rural health. Her academic background is in psychology and her research program focuses on elder abuse and aging in place with Native Americans. Dr. Gray was the past director of the UND – based GEC, so she has the skills and understanding of academic – driven training for improving health and community outcomes. Dr. Gray has extensive collaborations with the National Resource Center for Native Americans as well as important connections with health facilities in Indian Country across the Dakotas. She has considerable expertise in diversity and health disparities, thus offering a key role in strengthening GWEP curriculum.

**Director of Analytics**

Name: Brad Gibbens

Role: The Director of Analytics leads a team of analysts from the GWEP partnership.

Responsibilities: The incumbent coordinates data and analytics from Sanford Health, HealthCare Associates QIO, and the Rural health quality network. This team is responsible for tracking the project’s 5 MIPS and other health outcomes, PDSA cycles of change, learner engagement, and learner point accumulation towards Gero Champ certification. Additionally the incumbent manages the GWEP dashboard of innovations and success.

Qualifications (education and experience): Incumbent has a masters of public administration and economics. He is Deputy Director of the North Dakota Center for Rural Health and is responsible for the State of North Dakota Biennial Report that tracks disparities in health, health workforce, and health professional education. He has a history of $20M accumulated HRSA support, and currently assists with analytics for Project ECHO Opioid and Native Aging in Place. He has led Dementia Care Services and Rural People Policy and works extensively with the National Rural Health Association and the National Organization of State Offices of Rural Health.

**Director of Telementoring and AHEC**

Name: Lynette Dickson

Role: Incumbent oversees project ECHO and collaborations with AHEC

Responsibilities: The director will expand the current Project ECHO Opioid content to include Geriatrics, Diabetes and ADRD content. Monthly sessions with rural and Native American health centers are to be scheduled with faculty mentors and learners. The incumbent will also
coordinate curricular offerings with the GWEP and AHEC operations, including roll out of Geriatric Twitter Poll for community-based health care professionals.
Qualifications (education and experience): The incumbent has a RN degree and currently is the Associate Director for the Center for Rural Health located at UND SHMHS. She oversees Project ECHO opioid and the AHEC program in North Dakota. Thus, she has the experience and skills to advance training programs from the GWEP.

IPE coordinator
Name: To be determined
Role: The coordinator oversees the development and delivery of curriculum for interprofessional education, including Geriatric Twitter Poll, Community Service learning, and Population Health Simulation.
Responsibilities: The coordinator will be part of Innovation Teams 1 and 3 which focus on Geriatrics and ADRD training. The incumbent assists faculty to develop IPE content for the different educational platforms of the Dakota GWEP. Additional duties include tracking of learners and evaluation of curricular impact, including retention.
Qualifications (education and experience): Masters degree level in education or public health.

Program Administrative Assistant
Name: Meghan Jeanotte
Role: Provide administrative assistance for communications, operations, and data collection related to the Dakota GWEP.
Responsibilities: The administrative assistant provides day to day administrative operations for the GWEP such as communications, advertisements, website maintenance, and data culling. The incumbent also helps track time commitments of participants and consultants as defined by UND policy.
Qualification (education and experience): Incumbent has an associate’s degree in nursing and administration. Having an 8 year tenure with the Environmental Protection Agency, she is now the administrative assistant and business manager for the UND Department of Geriatrics. She is proficient in office and business software. As part of the GWEP, she will acquire skills in Project Manager to further assure timely execution of the project’s objectives. Additionally, as a Native American, the incumbent provides knowledge and skills essential to the GWEP collaboration with Indian Country.

Consultant
Name: Gayle Roux, PhD, RN, NP-C, FAAN
Role: The Consultant works with the program to support the mission and values stated previously for the Dakota GWEP. The Consultant will help oversee the Dakota Interprofessional Teaching academy to foster curriculum for inter-professional training and competencies in Geriatrics and ADRD.
Responsibilities: The Consultant meets with the PD and advisory boards as well as help oversee development of IPE activities with the college of nursing, social work, and nutrition. The Consultant participates in the IPE academy for Geriatric educators (train the trainer) in addition
to facilitating GWEP partnerships with rural and Indian health programs for teaching and research. **Qualifications (education & experience)** The Consultant is Professor and Dean of UND College of Nursing and Professional Disciplines (social work and nutrition). The Consultant has research training through a PhD nursing degree and NIH Scholars award for Interdisciplinary Research Careers in Women’s Health. Her research program focuses on inner strength in women living with chronic health conditions with publications in multiple peer-reviewed journals. Clinical experience as a Family Nurse Practitioner includes work in under-served areas such as rural and micropolitan FQHCs as well as county correctional facilities. The incumbent has extensive administrative experience in nursing and inter-professional programs, most recently culminating as Dean for the UND College of Nursing. The Consultant has been recognized with national awards (AJN Book of the year: Issues and trends in nursing) and is a fellow for the American Academy of Nursing. She teaches curricular design, management and evaluation and has mentored numerous doctoral candidates.
**Input**
Fed, State & local data & needs assessment  
Academic, health & community partners  
GWEP programs and clearing house  
HRSA  
IHI Age Friendly Health Systems  
Evidence – based healthcare literature

**Activities**
- National and Regional Advisory Boards  
- Establish inter - professional teams for Geriatric innovations  
- Guide strategic highway for IPE and public education in Geriatrics, Alz Dx, and MCC  
- Create new, engaging Geri curricular platforms  
- Revise & standardize existing curricula  
- Integrate Geriatrics into Primary Care  
- Develop faculty with Geriatric expertise  
- Bring Geriatric expertise to rural and Indian health services  
- Create & track PDSA cycles of change  
- Create & maintain web – based performance dashboard  
- Underserved population outreach

**Outputs**
**Education**
- Improve on - line curricular engagement through gamification & GeroChamp certificate  
- expand Project ECHO telementoring  
- Create inter – professional education via population health simulation  
- Expand curriculum delivery through social media (Geriatric Twitter Poll)  
- Train the trainers (Teaching Academy for IPE)  
- PDSA cycles of change  
**Healthcare**
- Redesign primary care via IHI Age Friendly Health Systems & PDSA cycles  
- Activate triads of provider-patient-community worker  
- Expand Geriatric resources for Rural and Indian Health (CGA telehealth)

**Influences**
- Multiple training sites  
- Demographic variation (rural, macro-rural, urban)  
- Cultural diversity (Native American, immigrants, disabled)  
- Little geriatric integration into HP care  
- Insufficient geriatric expertise  
- Few geriatric models of care  
- Competing curricular reforms  
- Under – developed inter - professional education  
- Low engagement and interest in Geriatrics  
- Inattention to dementia assessment, healthcare and training

**Out comes: immediate**
- Number of Gero – champ certificates  
- Number of Geriatric Twitter Poll users  
- Number of telementoring participants  
- Number of caregivers trained in dementia care  
- Competencies achieved in IPE & population health  
- % MIPS improvement (e.g., fall reduction, etc)  
- % primary care achieving Geriatric 4M’s (mentation, medication, mobility, what matters)  
- Number of under-resourced elderly served  
- Number of PDSA cycles adopted and disseminated

**GOALS**
- Geriatrics is integrated into primary care  
- Trainees acquire and retain 26 AAMC Geriatric competencies  
- Geriatric education is standardized across all training sites  
- Geriatric education is monitored by performance dashboard  
- Geriatric education embraces continuous quality improvement
Attachment 4: Letter of Commitment
between
The University of North Dakota University School of Medicine and Health Sciences
Department of Geriatrics and the Dakota Geriatric Workforce Enhancement Program
and
Academic, Healthcare, and Community Partners

Roles and Responsibilities of Academic, Healthcare and Community Partners
Each partner agrees to participate in a regional collaboration to achieve the goals of the HRSA - sponsored GWEP, namely, improve education for all stakeholders in Geriatrics and Alzheimer’s Disease as well as transform primary care across North and South Dakota into age-friendly healthcare. To achieve these goals, each partner will:

- assign a representative to participate in one or more GWEP activities that include strategic planning, needs assessment, educational program development and delivery, PSDA cycles of change for quality improvement, integration of Geriatrics into primary care, and dementia care;
- support time for learners and primary care teams to engage on-line training; telementoring, and health care redesign so as to integrate Geriatrics into primary care;
- enroll primary care teams into the Institute for Healthcare Improvement initiative on Age Friendly Health Systems;
- assist in reporting CMS metrics and other analytics that track GWEP progress.

Roles and Responsibilities of UND and the Dakota GWEP
The Dakota GWEP is housed at the UND Department of Geriatrics and it provides administrative support to its partners including logistics for meetings, communications, curricular development, its delivery, and faculty development as well as coordination and mentorship of primary care teams enrolled in the IHI collaboration for Age Friendly Healthcare Systems. Key deliverables for education include an on-line curriculum, telementoring via Project Echo, inter-professional team building through population health simulation, and learning through Geriatric Twitter Poll. To integrate Geriatrics into primary care, the Dakota GWEP assists primary care teams enrolled in the IHI “action community” on Age Friendly Health Systems through inter-professional faculty mentorship as well as PDSA cycles of improvement. Key innovations of the Dakota GWEP include curricular “gamification,” expansion of social media as a learning platform, and acquisition of Gero Champion certification. The Dakota GWEP reports project milestones and metrics to HRSA as well as facilitate scholarly reports.

Funding
The GWEP program supports the academic institutions that provide Geriatric training and includes partnership subcontracts for i) analytics, ii) educational material development, and iii) enrollment of primary care teams into the IHI Age Friendly Healthcare Systems project.

Signatures
Unless otherwise notified, all Dakota GWEP partners indicate their agreement to participate in the project for 5 years from July 1, 2019 to June 30, 2024 by signing this Letter of Commitment.
<table>
<thead>
<tr>
<th>Partner name</th>
<th>Role in the GWEP</th>
<th>Institutional representative signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>UND Geriatrics Department</td>
<td>Academic</td>
<td>Donald A. Jurivich, DO Professor and Chairman</td>
</tr>
<tr>
<td>Partnership leader since 2015</td>
<td>GWEP operations, PDSA cycles, curriculum development, IPE education health care redesign analytics</td>
<td></td>
</tr>
<tr>
<td>PDSA for Geriatric Twitter Poll</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDSA for IPE &amp; community CGA</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDSA for dementia care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PDSA for integrating geriatrics into primary care</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UND College of Nursing</td>
<td>Academic</td>
<td>Diana Kostrezewski</td>
</tr>
<tr>
<td>Partnership co - leader since 2015</td>
<td>curriculum development, IPE education analytics</td>
<td>Clinical Associate Director-Interim Dean Rashid Ahmed PhD Assoc. Dean for Research</td>
</tr>
<tr>
<td>Planning role same as UND Geriatrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>UND School of Health Prof.</td>
<td>Academic</td>
<td>Tom Mohr, PT, PhD Associate Dean, UND Health Sciences</td>
</tr>
<tr>
<td>Partnership collaborator since 2015</td>
<td>curriculum development IPE education</td>
<td></td>
</tr>
<tr>
<td>Planning role same as UND Geriatrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>ND Center for Rural Health</td>
<td>Academic &amp; Community</td>
<td>Brad Gibbens, MPA Deputy Director, Ctr Rural Health</td>
</tr>
<tr>
<td>Partnership collaborator since 2017</td>
<td>Analytics Curriculum (ECHO)</td>
<td></td>
</tr>
<tr>
<td>Planning role same as UND Geriatrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Geriatrics plus oversees AHHCs, Native Americans Aging in Place and Rural Health CAH network</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indians into Medicine</td>
<td>Academic &amp; Community</td>
<td>Don Warne, MD, MPH Associate Dean, InMED and Diversity</td>
</tr>
<tr>
<td>Partnership collaborator since 2015</td>
<td>Liaison for Native American trainees and training sites</td>
<td></td>
</tr>
<tr>
<td>Planning role same as UND Geriatrics</td>
<td></td>
<td></td>
</tr>
<tr>
<td>North Dakota State University</td>
<td>Academic</td>
<td>Cynthia A. Naughton, PharmD, BCPS Senior Assoc Dean and Assoc Prof</td>
</tr>
<tr>
<td>School of Pharmacy</td>
<td>curriculum development health care redesign</td>
<td></td>
</tr>
<tr>
<td>Partnership collaborator since 2016</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning role Pharm D training in Geriatric PCMH &amp; IPE</td>
<td></td>
<td></td>
</tr>
<tr>
<td>South Dakota State University</td>
<td>Academic</td>
<td>Roberta K. Olson, PhD, RN Interim Dean, SDSU College of Nursing</td>
</tr>
<tr>
<td>College of Nursing</td>
<td>IPE education</td>
<td></td>
</tr>
<tr>
<td>Partnership collaborator since 2018</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning role APN training in Geriatric PCMH &amp; curriculum</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sanford Health</td>
<td>Primary Care</td>
<td>Allison Suttle, MD Sanford Health Chief Medical Officer</td>
</tr>
<tr>
<td>Partnership collaborator since 2015</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Planning role health care redesign in the PCMH Site of new Geriatric Fellowships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Good Samaritan Society</td>
<td>Primary Care</td>
<td>Victoria Walker, MD Good Sam Soc Chief Medical Officer</td>
</tr>
<tr>
<td>Partnership collaborator since 2018</td>
<td>Integration of geriatrics into continuum of care Education of trainees, faculty and public</td>
<td></td>
</tr>
</tbody>
</table>
| **Rural Critical Access Network**, Sakakawea Medical Center | Primary Care | **Marcie Schulz**  
Engaged with UNDSMHIS in palliative care and opioid ECHO  
Planning role: health care redesign | **Marcie Schulz**, MBA, MSN, RN Director of Patient Care |
|---|---|---|---|
| **Indian Health Service**  
Spirit Lake Health Center  
Partnership collaborator since 2015  
Cargill Fund for eldercare with UND College of Nursing  
Partner with UND rural health elders aging in place  
Planning role: health care redesign and home care for elders | Primary Care | **Michelle Belt**  
Integration of geriatrics into primary care | **Michelle Belt**, Chief Executive Officer |
| **Great Plains Quality Innovations Network**  
Partnership collaborator since 2015  
Planning role: dementia care and quality improvement | Community | Ryan Sailor, MSA, President & Chief Operating Officer  
Dementia care  
Provider education  
PDSA cycles  
Analytics | Janna Pastir, Director, ND Division of Health Promotion |
| **North Dakota Department of Health**  
Partnership collaborator since 2018  
Planning role: web portal for health promotion | Community | **Janna Pastir**  
Health promotion portal  
Health care redesign |  |
| **South Dakota Alzheimers Assoc.**  
Partnership collaborator since 2015  
Planning role: dementia care and health care redesign | Community | Leslie Morrow, Executive Director  
Dementia care  
Public / provider education  
Health care redesign |  |
| **Senior Center, Grand Forks**  
Partnership collaborator  
Planning role: community education | Community | Colette Isenminger, MS, LRD  
Public education  
Dementia care |  |
| **Valley Senior Services**  
Partnership collaborator since 2015  
Planning role: community education | Community | Brian Arnett, MSW  
Public education  
Dementia care |  |
| **Memory Café**  
Partnership collaborator since 2018  
Planning role: community education | Community | Deborah Kaul, RN Co-founder  
Public education  
Dementia care |  |
| **Area Health Education Centers**  
Partnership collaborator since 2018  
Planning role: community & rural education | Community | Lynette Dickson, MS, RD, LRD  
Public / provider education |  |
| **Faith Community Nursing**  
Partnership collaborator since 2015  
Planning role: community & provider education | Community | Karla Cazer, MS, GCNS, RNBC, CFCN  
Public / provider education  
Dementia care |  |
| **Edgewood Health**  
Partnership collaborator since 2015  
Planning roles: community and health professionals’ education | Community | PhilGisi, President & CEO Edgewood Group  
Healthcare redesign Public education |  |
<table>
<thead>
<tr>
<th>Activity (Component&lt;sup&gt;b&lt;/sup&gt;)</th>
<th>Setting</th>
<th>IPEC Competency (IPECC)</th>
<th>ABO</th>
<th>Learners from Discipline Present</th>
<th>Activity</th>
<th>Assessment (Type&lt;sup&gt;c&lt;/sup&gt;)</th>
</tr>
</thead>
<tbody>
<tr>
<td>PHRM 340, PHRM 350, and PHRM 351L Pharmacy Practice Laboratory I (D/L)</td>
<td>Classroom (core curriculum) Laboratory (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice IPECC 3: IP Communication</td>
<td>3.6.1 3.6.2 3.6.4 3.6.5 3.6.6 4.4.1</td>
<td>Pharmacy</td>
<td>Classroom and laboratory assignments and examinations/assessments</td>
<td>ExamSoft report (S) Classroom feedback (F) Instructor or peers oral feedback (F)</td>
</tr>
<tr>
<td>Interprofessional Grand Rounds (GR)</td>
<td>Presentation with group activity/discussion (required component of co-curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice IPECC 2: Roles/Responsibilities IPECC3: IP Communication IPECC4: Team and Teamwork</td>
<td>3.4.1 3.4.2 3.4.3</td>
<td>Allied Health Nursing (RN; DNP) Pharmacy Public Health</td>
<td>IP presentation followed by an active learning</td>
<td>Online formative assessment measuring knowledge and attitudes (F)</td>
</tr>
<tr>
<td>PHRM 355 IPPE I Institutional Practice (ER)</td>
<td>Institutional setting (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice IPECC 2: Roles/Responsibilities IPECC 3: IP Communication IPECC4: Team and Teamwork</td>
<td>3.4.1 3.4.2 3.4.3 3.6.1 3.6.2 3.6.4 3.6.5 4.1.6 4.2.2 4.2.3 4.2.4 4.4.1</td>
<td>Anesthesiology Dentistry Medicine (MD, DO) Nursing (RN, DNP) Nutrition/Dietetics Pharmacy Physician Assistant Psychiatry Psychology Respiratory Therapy Speech Therapy</td>
<td>Preceptor evaluation form of students Director of IPPE evaluation of reflection related to IP shadowing experience</td>
<td>E*Value reports (S) Preceptor’s oral feedback (F) Director of IPPE feedback to reflection (F) IPPE Healthcare Professional/Student and Patient Interaction Survey (S)</td>
</tr>
<tr>
<td>Activity (Component$^b$)</td>
<td>Setting</td>
<td>IPEC Competency (IPECC)</td>
<td>ABO</td>
<td>Learners from Discipline Present</td>
<td>Activity</td>
<td>Assessment (Type$^c$)</td>
</tr>
<tr>
<td>---------------------------</td>
<td>---------</td>
<td>--------------------------</td>
<td>-----</td>
<td>----------------------------------</td>
<td>----------</td>
<td>----------------------</td>
</tr>
<tr>
<td>PHRM 450, and PHRM 452L Pharmacy Practice Laboratory II (D/L)</td>
<td>Classroom (core curriculum) Laboratory (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice IPECC 3: IP Communication IPECC 4: Team and Teamwork</td>
<td>3.6.1 3.6.2 3.6.4 3.6.5 3.6.6 4.2.2 4.2.3 4.2.4 4.4.1</td>
<td>Pharmacy</td>
<td>Classroom and laboratory assignments and examinations/assessments</td>
<td>ExamSoft report (S) Classroom feedback (F) Instructor or peer oral feedback (F)</td>
</tr>
<tr>
<td>CHP 400 Interprofessional Health Care Practice (D)</td>
<td>Classroom Simulation with Standardized patient (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice IPECC 2: Roles/Responsibilities IPECC 3: IP Communication IPECC 4: Team and Teamwork</td>
<td>3.4.1 3.4.2 3.4.3 3.6.1 4.2.2 4.2.3 4.2.4</td>
<td>Allied Health Dietetics Nursing (RN) Pharmacy Social Work</td>
<td>Pre-recorded lecture Case-based learning Role play Small group discussion Team-based learning IPEC Competency survey (self-assessment)</td>
<td>Guided reflection (S) Peer-review (S) Simulated Team Experience Scoring Rubric (S) Quizzes (S) Self-reported IPEC competency (S) Classroom/group feedback (F) Instructor feedback (F)</td>
</tr>
<tr>
<td>Team-based collaborative care simulation as part of CHP 400 (S)</td>
<td>Simulation with standardized patient (core curriculum)</td>
<td>PECC 1: Values/Ethics for IP Practice IPECC 2: Roles/Responsibilities IPECC 3: IP Communication IPECC 4: Team and Teamwork</td>
<td>3.4.1 3.4.2 3.4.3 3.6.1 4.2.4</td>
<td>Allied Health Dietetics Nursing (RN) Pharmacy Social Work</td>
<td>Simulation with standardized patients (1-2 Pharm.D., 1-2 RN, 0-1 social work, 0-1 allied science, and 0-1 dietetics students). Each IP group performance was independently scored by two raters and the average score was reported/group.</td>
<td>ExamSoft report for team-based collaborative care simulation assessment rubric (S) Pre-briefing (F) Debriefing (F)</td>
</tr>
<tr>
<td>Interprofessional Grand Rounds (GR)</td>
<td>Presentation with group activity/discussion (required component of co-curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice</td>
<td>Allied Health Nursing (RN; DNP) Pharmacy Public Health</td>
<td>IP presentation followed by an active learning</td>
<td>Online formative assessment measuring knowledge and attitudes (F)</td>
<td></td>
</tr>
<tr>
<td>PHRM 455 IPPE II (Community Pharmacy Practice; summer) (ER)</td>
<td>Experiential rotation (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice IPECC 2: Roles/Responsibilities IPECC 3: IP Communication IPECC 4: Team and Teamwork</td>
<td>Dentistry Medicine (MD, DO) Nursing (RN, DNP) Pharmacy Physician Assistant</td>
<td>Preceptor evaluation form of students Director of IPPE evaluation of reflection related to IP shadowing experience Drug information request from provider</td>
<td>E*Value reports (S) Preceptor’s oral feedback (F) Director of IPPE feedback to reflection (F) IPPE Healthcare Professional/Student and Patient Interaction Survey (S)</td>
<td></td>
</tr>
<tr>
<td>Activity (Component(^b))</td>
<td>Setting</td>
<td>IPEC Competency (IPECC)</td>
<td>ABO</td>
<td>Learners from Discipline Present</td>
<td>Activity</td>
<td>Assessment (Type(^d))</td>
</tr>
<tr>
<td>-----------------------------</td>
<td>---------</td>
<td>-------------------------</td>
<td>-----</td>
<td>----------------------------------</td>
<td>----------</td>
<td>------------------------</td>
</tr>
<tr>
<td><strong>PHRM 536, PHRM 540, PHRM 570, PHRM 572, PHRM 551L Pharmacy Practice Laboratory III, and 552L Pharmacy Practice Laboratory III (D/L)</strong></td>
<td>Classroom (core curriculum) Laboratory (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Communication IPECC 4: Team and Team work</td>
<td>3.6.1 3.6.2 3.6.4 3.6.5 3.6.6 4.2.2 4.2.4 4.4.1</td>
<td>Pharmacy</td>
<td>Classroom and laboratory assignments and examinations/assessments</td>
<td>ExamSoft report (S) Classroom feedback (F) Instructor or peer oral feedback (F)</td>
</tr>
<tr>
<td><strong>Pathways to Safer Opioid Use Simulation as part of PHRM 560 (S)</strong></td>
<td>Online/web-based simulated experience</td>
<td>IPECC 1: Values/Ethics for IP IPECC 2: Roles/Responsibilities</td>
<td>3.4.1 3.4.2</td>
<td><strong>Online Characters:</strong> Nurse Pharmacist Physician</td>
<td>Web-based training allowing the students to assume role of 4 playable characters who make decisions about preventing opioid-related adverse drug events (ADEs).</td>
<td>Debriefing (F) Assigned questions in Blackboard (will be tracked in Spring 2020 in ExamSoft (S))</td>
</tr>
<tr>
<td><strong>Interprofessional Simulation as part 551L Pharmacy Practice Laboratory III, and 552L Pharmacy Practice Laboratory III (S)(^d)</strong></td>
<td>Simulation (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Communication IPECC 4: Team and Team work</td>
<td>3.6.1 4.4.1</td>
<td>Nursing (RN) Pharmacy</td>
<td>High-fidelity patient simulation on advanced cardiovascular life support (ACLS) (2-3 Pharm.D. students and 2-3 2nd-year medical students). Two identical simulation runs.</td>
<td>Pre-briefing (F) Debriefing (F) Group performance feedback based on recording (F)</td>
</tr>
</tbody>
</table>
| **Interprofessional (NDSU/UND) Simulation (S)** | Simulation (required component of co-curriculum) | IPECC 1: Values/Ethics for IP Practice IPECC 2: Roles/Responsibilities IPECC 3: IP Communication | 3.4.1 3.4.2 3.6.4 4.4.1 4.4.2 | Medicine (MD) Pharmacy | High-fidelity patient simulation on opioid overdose (2-3 Pharm.D. students with 2-3 2nd-year medical students). Each group performance was independently scored by two raters (pharmacy and medicine/nursing-DNP) and | Pre-briefing (F) Debriefing (F) IP team dynamics assessment (S) Qualtrics pre- and post-simulation survey including knowledge of education and practice of other
<table>
<thead>
<tr>
<th><strong>Interprofessional Grand Rounds (GR)</strong></th>
<th>Presentation with group activity/discussion (required component of co-curriculum)</th>
<th>IPECC 1: Values/Ethics for IP Practice</th>
<th>IPECC 2: Roles/Responsibilities</th>
<th>IPECC 3: IP Communication</th>
<th>IPECC 4: Team and Teamwork</th>
<th>the average score was reported/group. Two identical simulation runs in 2018-2019 oppose to a single run in 2017-2018.</th>
<th>health profession (physician and pharmacist) (S)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td><strong>3.4.1</strong> <strong>3.4.2</strong> <strong>3.4.3</strong></td>
<td>Allied Health Nursing (RN; DNP) Pharmacy Public Health</td>
<td>IP presentation followed by an active learning</td>
<td>Online formative assessment measuring knowledge and attitudes (F)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Activity (Componentb)</td>
<td>Setting</td>
<td>IPEC Competency (IPECC)</td>
<td>ABO</td>
<td>Learners from Discipline Present</td>
<td>Activity</td>
<td>Assessment (Typec)</td>
<td></td>
</tr>
<tr>
<td>-----------------------</td>
<td>---------</td>
<td>-------------------------</td>
<td>-----</td>
<td>----------------------------------</td>
<td>----------</td>
<td>--------------------</td>
<td></td>
</tr>
<tr>
<td>PHRM 581-589 APPEs (ER)</td>
<td>Experiential rotation (core curriculum)</td>
<td>IPECC 1: Values/Ethics for IP Practice  IPECC 2: Roles/Responsibilities  IPECC 3: IP Communication  IPECC 4: Team and Teamwork</td>
<td>3.4.1 3.4.2 3.4.3 3.6.1 3.6.2 3.6.4 3.6.5 4.1.6 4.2.2 4.2.3 4.2.4 4.4.1</td>
<td>Allied Health  Anesthesiology  Dentistry  Medicine (MD, DO)  Nursing (RN, DNP)  Nutrition/Dietetics  Occupation Therapy  Pharmacy  Physical Therapy  Physician Assistant  Psychiatry  Psychology  Respiratory Therapy  Social Work  Speech Therapy</td>
<td>Preceptor evaluation form of students  APPE portfolios  End of rotation reflection  Interprofessional activity logs</td>
<td>E*Value reports from preceptors, Portfolios, and logs on interprofessional interactions (S)  Preceptor’s oral feedback (F)  Director of APPE feedback to reflection, portfolio and IP activity logs (F)</td>
<td></td>
</tr>
<tr>
<td>AACP Survey</td>
<td>N/A</td>
<td>IPECC 1: Values/Ethics for IP Practice  IPECC 2: Roles/Responsibilities  IPECC 3: IP Communication  IPECC 4: Team and Teamwork</td>
<td>3.4.1 3.4.2 3.4.3</td>
<td>Interprofessional Healthcare Team</td>
<td></td>
<td>AACP Reports from graduated class and residents (S)</td>
<td></td>
</tr>
</tbody>
</table>

**Student Q11:** The learning experience with other professions students helped me gain a better understanding of how to be part of a multidisciplinary team to improve patient outcomes.

**Student Q23:** The PharmD program prepared me to engage as a member of an interprofessional healthcare team.

**Student Q46:** My pharmacy practice experience allowed me to collaborate with other healthcare professionals.

**Preceptor Q30:** The PharmD program prepares students to engage as a member of an interprofessional healthcare team.

**AACP Survey**

**Student Q26:** The Pharm.D. program prepared me to effectively communicate (verbal, non-verbal, written) when interacting with individuals, groups, and organizations.
<table>
<thead>
<tr>
<th>Preceptor Q33:</th>
<th>The Pharm.D. program prepares students to effectively communicate (verbal, non-verbal, written) when interacting with individuals, groups, and organizations.</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>AACP Survey</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Student Q28:</strong></td>
<td>The Pharm.D. program prepared me to accept responsibility for creating and achieving shared goals.</td>
</tr>
<tr>
<td><strong>AACP Survey</strong></td>
<td>N/A</td>
</tr>
<tr>
<td><strong>Student Q30:</strong></td>
<td>The Pharm.D. program prepared me to act in a manner consistent with the trust given to pharmacists by patients, other healthcare providers, and society.</td>
</tr>
<tr>
<td><strong>Preceptor Q37:</strong></td>
<td>The Pharm.D. program prepares students to act in a manner consistent with the trust given to pharmacists by patients, other healthcare providers, and society.</td>
</tr>
<tr>
<td>Activity (Component)</td>
<td>Setting</td>
</tr>
<tr>
<td>----------------------</td>
<td>---------</td>
</tr>
<tr>
<td>AACP Survey</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Alumni Q37:** The PharmD program prepared me to engage as a member of an interprofessional healthcare team

<table>
<thead>
<tr>
<th>AACP Survey</th>
<th>N/A</th>
<th>IPECC 3: IP Communication</th>
<th>3.6</th>
<th>N/A</th>
<th></th>
<th>AACP Reports from alumni (S)</th>
</tr>
</thead>
</table>

**Alumni Q40:** The Pharm.D. program prepared me to effectively communicate (verbal, non-verbal, written) when interacting with individuals, groups, and organizations.

<table>
<thead>
<tr>
<th>AACP Survey</th>
<th>N/A</th>
<th>IPECC 4: IP Communication</th>
<th>4.2</th>
<th>N/A</th>
<th></th>
<th>AACP Reports from alumni (S)</th>
</tr>
</thead>
</table>

**Alumni Q42:** The Pharm.D. program prepared me to accept responsibility for creating and achieving shared goals.

<table>
<thead>
<tr>
<th>AACP Survey</th>
<th>N/A</th>
<th>IPECC 1: Values/Ethics for IP Practice IPECC 3: IP Communication</th>
<th>4.4.1</th>
<th>N/A</th>
<th></th>
<th>AACP Reports from alumni (S)</th>
</tr>
</thead>
</table>

**Alumni Q44:** The Pharm.D. program prepared me to act in a manner consistent with the trust given to pharmacists by patients, other healthcare providers, and society.

Abbreviations: Ability-based outcomes (ABO); Interprofessional (IP); Interprofessional Education Collaborative (IPEC); IPEC Competency (IPECC).

Activity/Assessment Data Color Coding:

<table>
<thead>
<tr>
<th>Didactic/Lab Curriculum</th>
<th>Co-curriculum</th>
<th>Experiential Curriculum</th>
<th>AACP Surveys</th>
</tr>
</thead>
</table>

Program only tracks activities in professional curriculum during P1-P4 years. However, CHP 190: Critical Thinking and Academic Success, a required course during the first pre-professional year offered for all pre-professional students in the College provides an opportunity for interactions and discussion with other pre-professional students.

Setting: Didactic (D), Experiential Rotations (ER), Grand Round Presentation (GR), Lab (L), Simulations (S)

Type of the assessment: summative (S), formative (F)

For more information see manuscript/article by Frenzel et al., 2019: Measuring Health Care Students’ Attitudes towards Interprofessional Learning, Perceptions of Effectiveness and as Interprofessional Team Member, and Competence in Managing Adult Cardiac Arrest, Currents in Pharmacy Teaching and Learning 2019, 11(11). (Currently under review 2).
### IPEC COMPETENCY 1: Values/Ethics for Interprofessional Practice

Work with individuals of other professions to maintain a climate of mutual respect and shared values.

- **ABO 3.4.1.** Establish a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs.*

- **ABO 4.4.1** Demonstrate empathy, compassion, integrity, and respect for others.

### IPEC COMPETENCY 2: Roles/Responsibilities

Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.

- **ABO 3.4.2** Incorporate the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable.*

- **ABO 4.4.2** Demonstrate preparation, initiative, and accountability consistent with a commitment to excellence.

### IPEC COMPETENCY 3: Interprofessional Communication

Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.

- **ABO 3.4.3.** Communicate in a manner that values team-based decision-making and shows respect* for contributions from other areas of expertise. *

- **ABO 3.6.1** Demonstrate effective interpersonal skills when interacting with others to establish rapport and build trusting relationships.

- **ABO 3.6.2** Actively listen and ask appropriate open and closed-ended questions to gather information.

- **ABO 3.6.4** Communicate assertively, persuasively, confidently, and clearly.

- **ABO 3.6.5** Use available technology and other media to assist with communication as appropriate.

- **ABO 3.6.6** Elicit feedback, validating understanding of communication.

- **ABO 4.4.1** Demonstrate empathy, compassion, integrity, and respect for others.

### IPEC COMPETENCY 4: Teams and Teamwork

Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

- **ABO 3.4.3.** Communicate in a manner that values team-based decision-making and shows respect*

- **ABO 4.1.6.** Demonstrate self-confidence when working with patients, families, and members of the healthcare team.

- **ABO 4.2.2.** Develop relationships, value diverse opinions, and understand individual strengths and weaknesses to promote teamwork.

- **ABO 4.2.3.** Persuasively communicate goals to stakeholders to help build consensus.

- **ABO 4.2.4.** Empower team members by actively listening, gathering input or feedback, and fostering collaboration.

---

Abbreviations: Ability-Based Outcomes (ABO); Interprofessional Education Collaborative (IPEC).

*ABO that is only mapped to an activity when at least one other health profession outside of pharmacy is present.
## IPE GRAND ROUNDS CALENDAR

<table>
<thead>
<tr>
<th>DATE</th>
<th>TOPIC</th>
<th>PRESENTER</th>
<th>LOCATION</th>
<th>IPEC COMPETENCY</th>
</tr>
</thead>
<tbody>
<tr>
<td>1/19/18</td>
<td>Disaster Preparedness</td>
<td>Dr. Adam Hohman, DNP</td>
<td>Sudro 22</td>
<td>Roles and Responsibilities</td>
</tr>
<tr>
<td>2/23/18</td>
<td>Trauma-Informed Care</td>
<td>Dr. Ramona Danielson</td>
<td>Sudro 27</td>
<td>Roles and Responsibilities</td>
</tr>
<tr>
<td>3/23/18</td>
<td>Stress and Burnout Among Healthcare Professionals</td>
<td>Carrie Nelson, RN</td>
<td>Sudro 27</td>
<td>Roles and Responsibilities</td>
</tr>
<tr>
<td>10/5/18</td>
<td>Building an IPE Team from the Other Side of the Bed</td>
<td>Karla Haug RN</td>
<td>MU Great Room</td>
<td>Values and Ethics, Roles and Responsibilities</td>
</tr>
<tr>
<td>11/2/18</td>
<td>Ethical Dilemmas Associated with Blood Supply and Transfusions</td>
<td>Stacy Sime, MS, MLS</td>
<td>MU Great Room</td>
<td>Values and Ethics, Roles and Responsibilities</td>
</tr>
<tr>
<td>12/7/18</td>
<td>The Role of Health Care in Addressing Food Insecurity</td>
<td>Dr. Abby Gold, PhD, MPH, RD</td>
<td>MU Great Room</td>
<td>Roles and Responsibilities, IP Communication</td>
</tr>
<tr>
<td>2/1/19</td>
<td>Personalized Medicine: The Future is Now</td>
<td>Dr. Natasha Petry, PharmD, BCACP</td>
<td>MU Great Room</td>
<td>Roles and Responsibilities</td>
</tr>
<tr>
<td>3/1/19</td>
<td>Interprofessional Approaches to Opioid Misuse Prevention</td>
<td>Dr. Strand, MPH Dr. Werremeyer, PharmD,</td>
<td>QBB 104</td>
<td>Interprofessional Communication</td>
</tr>
<tr>
<td>4/5/19</td>
<td>Medical Marijuana</td>
<td>Dr. Mark Hardy, PharmD</td>
<td>QBB 104</td>
<td>Values and Ethics</td>
</tr>
<tr>
<td>9/6/19</td>
<td>Providing Culturally Sensitive and Responsive Care to our First Americans</td>
<td>Dr. Donna Grandbois, MSN, PhD, RN</td>
<td>MU Great Room</td>
<td>Interprofessional Communication, Teams and Teamwork</td>
</tr>
<tr>
<td>10/4/19</td>
<td>Working with Medical Interpreters</td>
<td>Dr. Brody Maack, PharmD and Jasmine Gehrig, Medical Interpreter</td>
<td>MU Great Room</td>
<td>Values/Ethics for IP Practice, Teams and Teamwork</td>
</tr>
<tr>
<td>11/1/19</td>
<td>Workplace Violence in Healthcare</td>
<td>Dr. Huber, Sanford PGY-4 Psychiatry Resident</td>
<td>MU Great Room</td>
<td>Values/Ethics, IP Communication</td>
</tr>
<tr>
<td>1/31/20</td>
<td>Medical Cannabis and the Pharmacist Role</td>
<td>Student ACCP (Sabrina Wolfe), Sarah Overby, Director of Medical Education at Vireo Health, Jolene Day, Moorhead Cannabis Patient Center Pharmacy manager</td>
<td>MU Great Room</td>
<td></td>
</tr>
<tr>
<td>3/6/2020</td>
<td>Palliative and End of Life Care</td>
<td>Roxanne Smedsrud, RN Hospice of the Red River Valley</td>
<td>MU Great Room</td>
<td></td>
</tr>
<tr>
<td>4/3/2020</td>
<td>Patient Safety / Medical Errors</td>
<td>Janet Drechsel, RN, MSN, Director Risk Management Sanford Health</td>
<td>MU Great Room</td>
<td></td>
</tr>
</tbody>
</table>
NDSU COLLEGE OF HEALTH PROFESSIONS
INTERPROFESSIONAL GRAND ROUNDS

Speaker Instructions:
- IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
- Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
- Please complete the following form in its entirety.
- E-mail completed form to cynthia.naughton@ndsu.edu

Title and Date of IPE Grand Rounds Topic
Emergency/Disaster Preparedness for Allied Health Professionals (1/19/18)

Topic Description
My talk will provide an overview of disaster preparedness concepts as it pertains to allied health care providers roles and preparedness planning. Given the magnitude of disaster preparedness with the time constraint, I will focus on the Stop the Bleeding Initiative after a brief overview of disasters.

Speaker Name and Contact Information
Full Name: Adam Hohman
Title: DNP
Position/Employer: Assistant Professor of Practice, NDSU School of Nursing
E-mail: adam.hohman@ndsu.edu Phone: 701-231-8016

Credentials and Biosketch
Degree/Credentials: DNP, FNP-BC
Brief Bio sketch (to introduce you): Since Jan 2016, I’ve been a nursing faculty member at North Dakota State University in the DNP program. Prior to NDSU, I worked as an NP in the Surgical ICU at the Mayo Clinic’s St Mary’s Hospital. In addition, my career includes working in the primary care and the emergency department as an NP and serving as an Air Force Reserves Nurse Corps officer. Both of my nursing degrees are from North Dakota State University with a BSN in May 2000 and a DNP in May 2008 My interests are in disaster preparedness particularly in rural health care settings and rural emergency care competency for NPs.

Required Instructional Components
<table>
<thead>
<tr>
<th>Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values/Ethics for Interprofessional Practice. Work with individuals of other professions to maintain a climate of mutual respect and shared values.</td>
</tr>
<tr>
<td>Roles/Responsibilities. Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
<tr>
<td>Interprofessional Communication. Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.</td>
</tr>
</tbody>
</table>
**Teams and Teamwork.** Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

**Describe your interprofessional active learning exercise:**
Allied health students will be divided in groups of different degrees (pharmacy, nursing, etc.) and will discuss questions about:

1. What do you perceive as your role in a disaster situation as it pertains to your profession?
2. What do you feel your profession contributes for disasters planning as a member of a healthcare team/facility/community?

**Assessment:** An online assessment will be completed using the following questions:

Please answer the following questions based upon the content presented today as an overview of emergency/disaster preparedness.

1. To what extent do you feel you can define the scope of emergency/disaster preparedness measures?
   
<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Confident</td>
<td>Confident</td>
<td>Very Confident</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

2. To what extent do you feel you would be able to describe your professional role within the overall objectives of emergency/disaster preparedness?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Not Confident</td>
<td>Confident</td>
<td>Very Confident</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

3. I feel my profession has significant contributions to make regarding emergency/disaster planning?

<table>
<thead>
<tr>
<th>0</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Strongly Disagree</td>
<td>Disagree</td>
<td>Agree</td>
<td>Strongly Agree</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

4. In order to respond to an emergency/disaster event as a professional, what type of additional education do you believe you need?

5. After today, what do you perceive as your professional role in emergency/disaster preparedness?
Speaker Instructions:
- IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
- Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
- Please complete the following form in its entirety.
- E-mail completed form to cynthia.naughton@ndsu.edu

<table>
<thead>
<tr>
<th>Title and Date of IPE Grand Rounds Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trauma-Informed Care and the Maternal, Infant, and Early Childhood Home Visiting Program (MIECHV)</td>
</tr>
<tr>
<td>February 23, 2018</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>The speaker will talk about the ND MIECHV Program, which is a collaboration between Prevent Child Abuse ND, Spirit Lake Nation, and the Turtle Mountain Band of Chippewa Indians to deliver culturally appropriate, community-driven home visiting services. She will also talk about an innovation project being implemented with the purpose of empowering MIECHV-implementing tribal communities to be self-healing and trauma-informed by strengthening resources and services, leading to better outcomes for children, families, and communities.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Speaker Name and Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Name:</strong> Ramona Danielson</td>
</tr>
<tr>
<td><strong>Title:</strong> Program Evaluator</td>
</tr>
<tr>
<td><strong>Position/Employer:</strong> NDSU Department of Public Health</td>
</tr>
<tr>
<td><strong>E-mail:</strong> <a href="mailto:ramona.danielson@ndsu.edu">ramona.danielson@ndsu.edu</a></td>
</tr>
<tr>
<td><strong>Phone:</strong> 701-231-8916</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credentials and Biosketch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Degree/Credentials:</strong> PhD (December 2017)</td>
</tr>
<tr>
<td><strong>Brief Biosketch (to introduce you):</strong> Ramona Danielson is a program evaluator with the NDSU Department of Public Health. Her work includes maternal and child health, social determinants of health, adverse childhood experiences, community-based participatory research, and health equity for American Indians. For the past five years, she has supported the work of the ND MIECHV Project through data and evaluation. She co-wrote the innovation grant awarded to Prevent Child Abuse ND focusing on self-healing communities and trauma-informed care.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Instructional Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:</strong></td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td>X</td>
</tr>
<tr>
<td>---</td>
</tr>
<tr>
<td></td>
</tr>
<tr>
<td><strong>Describe your interprofessional active learning exercise:</strong></td>
</tr>
<tr>
<td><strong>Assessment:</strong></td>
</tr>
</tbody>
</table>
| 1. Which of the following is **not** a core principle of evidence-based home visiting models for work with pregnant women and families with young children? (correct answer: c)  
  a) Helping parents set goals  
  b) Encouraging parents’ knowledge of child development  
  c) Telling parents exactly how they should raise their child  
  d) Connecting families to community resources | |
| 2. Which of the following are examples of adverse childhood experiences that can cause toxic stress? (correct answer: d)  
  a) Physical abuse  
  b) Caregiver mental illness  
  c) Substance abuse in the home  
  d) All of the above | |
| 3. Which is **not** a core principle of trauma-informed approaches, according to the Substance Abuse and Mental Health Services Administration? (correct answer: b)  
  a) Safety  
  b) Protecting traumatized individuals by not telling them how decisions are made  
  c) Collaboration  
  d) Empowerment | |
| 4. Empowerment evaluation is different from a traditional approach to evaluation. Which is a core principle of empowerment evaluation? (correct answer: d)  
  a) Community ownership  
  b) Social justice  
  c) Capacity building  
  d) All of the above |
NDSU COLLEGE OF HEALTH PROFESSIONS
INTERPROFESSIONAL GRAND ROUNDS

Speaker Instructions:
• IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
• Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
• Please complete the following form in its entirety.
• E-mail completed form to cynthia.naughton@ndsu.edu

Title and Date of IPE Grand Rounds Topic
Psychological Distress and Resiliency in Healthcare Professions – March 23, 2018

Topic Description
The presentation will provide an overview of psychological distress commonly experienced by healthcare professionals. We will discuss the prevalence of depression, anxiety, stress, suicidality and burnout in healthcare professions and symptoms of these disorders. The presentation will also provide an overview of resiliency and its protective role related to psychological distress. Discussion will include recognizing symptoms of mental health disorders, treatment options, and where students can find help if they are experiencing mental health symptoms.

Speaker Name and Contact Information
Full Name: Carrie Nelson
Title: BSN, RN
Position/Employer: Research Nurse and Study Coordinator, NDSU Pharmaceutical Sciences; 3rd year Doctor of Nursing Practice student at NDSU
E-mail: carrie.nelson@ndsu.edu  Phone: 701-630-1916

Credentials and Biosketch
Degree/Credentials: BSN, RN
Brief Bio sketch (to introduce you): I graduated from NDSU with BSN degree in 2012. I worked for little over a year as an inpatient nurse at Sanford in Fargo. For the past 5 years, I’ve been working with Dr. Kristine Steffen in the Pharmaceutical Sciences department at NDSU, working primarily in the field of bariatric surgery and obesity research. I will graduate in May with a Doctor of Nursing Practice degree from NDSU, and the focus of my dissertation project was examining psychological distress and resiliency in Doctor of Nursing Practice students.

Required Instructional Components
Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:

<table>
<thead>
<tr>
<th>Competency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Values/Ethics for Interprofessional Practice</td>
<td>Work with individuals of other professions to maintain a climate of mutual respect and shared values.</td>
</tr>
<tr>
<td>X Roles/Responsibilities</td>
<td>Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
</tbody>
</table>
**Interprofessional Communication.** Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.

**Teams and Teamwork.** Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

**Describe your interprofessional active learning exercise:**
Allied health students will be divided into groups of different degrees (pharmacy, nursing, etc.) and will discuss case studies regarding recognizing mental health conditions in peers and where they would recommend the case study subject go to receive help.

**Assessment:** An online assessment will be completed using the following questions:

Please answer the following questions based upon the content presented today as an overview of psychological distress in healthcare professionals.

1. Outside of this presentation, other classes or extracurricular activities at NDSU have provided me with education about symptoms of psychological distress and my risk for experiencing psychological distress as a student or healthcare provider.

   0  1  2  3  4  5
   Strongly Disagree  Disagree  Agree  Strongly Agree

2. The content covered in the presentation provided me with useful knowledge related to psychological distress in healthcare providers and students.

   0  1  2  3  4  5
   Strongly Disagree  Disagree  Agree  Strongly Agree

3. I have a better understanding of psychological distress experienced by healthcare providers and students as a result of this lecture.

   0  1  2  3  4  5
   Strongly Disagree  Disagree  Agree  Strongly Agree

4. To what extent do you feel you could recognize symptoms of psychological distress in yourself or a peer?

   0  1  2  3  4  5
   Not Confident  Confident  Very Confident
5. If you were experiencing symptoms of a mental health issue, you would know where to go to receive help on campus or within the community.

0  1  2  3  4  5
Strongly Disagree  Disagree  Agree  Strongly Agree

6. I feel more aware of the possible increased risk of experiencing psychological distress working in a healthcare profession and as a student.

0  1  2  3  4  5
Strongly Disagree  Disagree  Agree  Strongly Agree

7. I feel this presentation would be helpful for future health professions students.

0  1  2  3  4  5
Strongly Disagree  Disagree  Agree  Strongly Agree

8. Additional comments:
### Speaker Instructions:

- IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
- Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
- Please complete the following form in its entirety.
- E-mail completed form to cynthia.naughton@ndsu.edu

### Title and Date of IPE Grand Rounds Topic

| Building an IPE Team from the other side of the bed: Jacob’s Story – October 5, 2018 |

### Topic Description

Students will be guided through Jacob’s journey to assist in meeting the following objectives:
- Discover/Gain an understanding of the family role on the interdisciplinary team.
- Identify the importance of communication with the patient, family, and interdisciplinary team which ensures patient safety.
- Compare and contrast the health care member role to the parent role.

### Speaker Name and Contact Information

<table>
<thead>
<tr>
<th>Full Name: Karla Haug</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Assistant Professor of Practice / Director LPN-BSN Program</td>
</tr>
<tr>
<td>Position/Employer: NDSU</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:karla.haug@Ndsu.edu">karla.haug@Ndsu.edu</a></td>
</tr>
</tbody>
</table>

### Credentials and Biosketch

**Degree/Credentials:** MS, RN  
**Brief Bio Sketch (to introduce you):** Karla Haug is an Assistant Professor of Practice in the NDSU School of Nursing. She is also the Director of the LPN-BSN Program. Mrs. Haug graduated in 2000 from Concordia College with a Bachelor of Arts in Nursing and began her nursing career at MeritCare (now Sanford Health) on the Cardiac Progressive Care Unit. In 2005, Mrs. Haug graduated from NDSU with her Masters of Science in Nursing Education and began teaching at NDSU. Mrs. Haug is married to Marc and they are the proud parents of 2 boys, Marcus and Jacob, who you will learn more about today.

### Required Instructional Components

<table>
<thead>
<tr>
<th>Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>xx</strong> <strong>Values/Ethics for Interprofessional Practice.</strong> Work with individuals of other professions to maintain a climate of mutual respect and shared values.</td>
</tr>
<tr>
<td><strong>xx</strong> <strong>Roles/Responsibilities.</strong> Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
<tr>
<td><strong>xxx</strong> <strong>Interprofessional Communication.</strong> Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.</td>
</tr>
</tbody>
</table>
**Teams and Teamwork.** Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

**Describe your interprofessional active learning exercise:**
Students will be engaged throughout the presentation in active learning questions about professional roles and who should be involved in Jacob’s care. Examples: 1) Who should be a part of the team and why also we will look at treatments and teaching needed throughout Jacob’s life? 2) How might taking care of a patient who is also a health care professional impact how you would deliver care?

**Describe how you will assess learning:**
Students will reflect on and answer the following question – “How has your view of the role and responsibilities of family members on the interprofessional team changed as a result of this IPE Grand Rounds?”
NDSU COLLEGE OF HEALTH PROFESSIONS
INTERPROFESSIONAL GRAND ROUNDS

Speaker Instructions:
- IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
- Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
- Please complete the following form in its entirety.
- E-mail completed form to cynthia.naughton@ndsu.edu

Title and Date of IPE Grand Rounds Topic
Ethical Dilemmas Associated with Blood Supply & Transfusions, Friday, November 2, 2018, 12:00-12:50 p.m.

Topic Description
Current ethical, public health and public good challenges faced by blood centers including infectious diseases and ensuring an adequate blood supply will be presented, along with discussion of the health professionals roles in addressing associated challenges.

Speaker Name and Contact Information
Full Name: Stacy Sime
Title: President/CEO
Position/Employer: LifeServe Blood Center
E-mail: Stacy.Sime@lifeservebloodcenter.org
Phone: 515-309-4850

Credentials and Biosketch
Degree/Credentials: MS, MLS
Brief Biosketch (to introduce you): 1988 NDSU Medical Technology graduate. MS, Adult Education, Drake University. Work history includes Medical Technologist at Mercy Medical Center (Des Moines), Program Director, Clinical Laboratory Science Program, Mercy Medical Center (Des Moines), VP of Operations, President/CEO of Blood Centers of Iowa and for past eight years, President/CEO of LifeServe Blood Center (Des Moines). Recipient of the 2018-2019 College of Health Professions Distinguished Alumnus Award.

Required Instructional Components
Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:

<table>
<thead>
<tr>
<th></th>
<th>Values/Ethics for Interprofessional Practice. Work with individuals of other professions to maintain a climate of mutual respect and shared values.</th>
</tr>
</thead>
<tbody>
<tr>
<td>X</td>
<td>Roles/Responsibilities. Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
<tr>
<td></td>
<td>Interprofessional Communication. Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.</td>
</tr>
<tr>
<td></td>
<td>Teams and Teamwork. Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population- centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.</td>
</tr>
</tbody>
</table>
**Describe your interprofessional active learning exercise:** 3-4 discussion questions

Each small group will debate one or all of the following topics and determine group consensus:

Should the United States switch from a volunteer blood donor program to a paid blood donor program for hospital transfusions? Depending on your group decision, what do you think some of the long term implications could be?

If you are the patient, receiving the blood transfusion do you care if the blood donor who donated your blood has been paid?

When there is blood shortage how are resources allocated? Who gets priority?

Many criteria will eliminate someone from a donor pool. How might the donor pool be expanded, i.e. in a disaster? What are the implications and costs associated with expanding the donor pool?

**Describe how you will assess learning:** 1-2 short answer questions

Based on what you learned, what do you consider the biggest ethical dilemma facing the blood industry?
**Speaker Instructions:**
- IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
- Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
- Please complete the following form in its entirety.
- E-mail completed form to cynthia.naughton@ndsu.edu

<table>
<thead>
<tr>
<th>Title and Date of IPE Grand Rounds Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>The Role of Health Care in Addressing Food Insecurity</td>
</tr>
</tbody>
</table>

**Topic Description**
This session will discuss various “best practices” and “evidence-based practices” used in clinical systems to connect patients to healthy food. Such practices include: fruit and vegetable prescriptions, food security screenings, gardening projects, and Double Market Bucks interventions through Community Benefit Programs.

**Speaker Name and Contact Information**

<table>
<thead>
<tr>
<th>Full Name: Abby Gold</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title: Associate Professor and Vice Chair</td>
</tr>
<tr>
<td>Position/Employer: NDSU Department of Public Health</td>
</tr>
<tr>
<td>E-mail: <a href="mailto:abby.gold@ndsu.edu">abby.gold@ndsu.edu</a></td>
</tr>
</tbody>
</table>

**Credentials and Biosketch**

<table>
<thead>
<tr>
<th>Degree/Credentials: PhD, MPH, RD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Brief Bio sketch (to introduce you): Dr. Abby Gold is Vice Chair and Associate Professor in the Department of Public Health at North Dakota State University. She has a doctorate in Health Communication from NDSU, a Master of Public Health Nutrition from the University of Minnesota, and Bachelor of Science in Human Nutrition from the University of Massachusetts, Amherst. Dr. Gold’s research focus is in public health, nutrition, and communication and she has a strong interest in the intersection between health and agriculture from a social science perspective. Formerly, Dr. Gold was an Extension Specialist in Nutrition and Wellness for the University of Minnesota Extension and North Dakota State University Extension Service.</td>
</tr>
</tbody>
</table>
## Required Instructional Components

**Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:**

<table>
<thead>
<tr>
<th>Competency</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Values/Ethics for Interprofessional Practice.</strong></td>
<td>Work with individuals of other professions to maintain a climate of mutual respect and shared values.</td>
</tr>
<tr>
<td><strong>Roles/Responsibilities.</strong></td>
<td>Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
<tr>
<td><strong>Interprofessional Communication.</strong></td>
<td>Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.</td>
</tr>
<tr>
<td><strong>Teams and Teamwork.</strong></td>
<td>Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.</td>
</tr>
</tbody>
</table>

### Describe your interprofessional active learning exercise:
Assessing food security and small group discussions on how to integrate. Participants will individually complete the two question food security assessment: a) “Within the past 12 months, we worried whether our food would run out before we had money to buy more”, b) “Within the past 12 months, the food we bought just didn’t last and we didn’t have money to get more”. They will then discuss with their neighbor how it felt to take the assessment as a “patient.” Next, they will form a group of 3-4 individuals and discuss how the clinical system and teams of clinicians can work to 1) integrate the assessment into the vital signs EHR, and 2) create a robust referral system to community-based resources that work to alleviate hunger and food insecurity.

### Describe how you will assess learning:
Pre/Posttest about food security. Students can go to [www.ndsu.edu/healthprofessions/ipe](http://www.ndsu.edu/healthprofessions/ipe). There are links to the session pre and post test. The pretest opens at noon with password: insecurepre. The post test will open at 12:40 pm with password: insecurepost.

1) There are currently no programs where health care providers connect food insecure persons with resources.
   - True
   - False (Slide 11, 12, 13)

2) What percent of the U.S. population experienced food insecurities during the year?
   - A: 2 %
   - B: 12 % (Slide 18)
   - C: 6%
   - D: 18 %

3) Information between food banks/pantries and health care providers cannot be shared due to HIPPA.
   - True
   - False (Slide 16)

4) (Select all that apply) Food insecurity can:
   - Cause misdiagnosis
   - Create higher health care costs
   - Prolong hospital stays
   - Affect how the patient takes their prescribed medications
   - Create a higher number of emergency room visits for the patient (Slide 8)

5) One in 20 children suffer from hunger.
   - True
   - False (Slide 4)
NDSU COLLEGE OF HEALTH PROFESSIONS
INTERPROFESSIONAL GRAND ROUNDS

**Speaker Instructions:**
- IPE Grand Round topics are 50 minutes in length which includes a 35 minute presentation, 10 minute interprofessional active learning exercise, and 5 minute online assessment.
- Speakers must provide 1-2 IPEC objectives related to the topic, an active learning exercise, and one assessment item.
- Please complete the following form in its entirety.
- E-mail completed form to [cynthia.naughton@ndsu.edu](mailto:cynthia.naughton@ndsu.edu) no later than Jan. 15, 2019.

<table>
<thead>
<tr>
<th>Title and Date of IPE Grand Rounds Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Personalized Medicine: The Future is Now  Feb., 1, 2019</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Topic Description</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Speaker Name and Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Full Name:</strong> Natasha Petry</td>
</tr>
<tr>
<td><strong>Title:</strong> Dr.</td>
</tr>
<tr>
<td><strong>Position/Employer:</strong> Assistant Professor of Practice (NDSU), Pharmacogenetics Clinical Pharmacist (Sanford Health)</td>
</tr>
<tr>
<td><strong>E-mail:</strong> <a href="mailto:Natasha.petry@ndsu.edu">Natasha.petry@ndsu.edu</a>; <a href="mailto:Natasha.petry@sanfordhealth.org">Natasha.petry@sanfordhealth.org</a></td>
</tr>
<tr>
<td><strong>Phone:</strong> 701-231-6554 / 701-234-6016</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Credentials and Biosketch</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Degree/Credentials:</strong> PharmD, BCACP</td>
</tr>
<tr>
<td><strong>Brief Bio sketch (to introduce you):</strong> Dr. Natasha Petry is a clinical pharmacist at Sanford Health where she specializes in pharmacogenetics. In her clinical practice she works with providers, nurses, genetic counselors, lab personnel and other health care professionals on a daily basis. She is also Assistant Professor of Practice in the Department of Pharmacy Practice at NDSU. She received her B.S. in Microbiology and PharmD from NDSU. She completed a PGY-1 Pharmacy Practice Residency at Trinity Health in Minot, ND. She is a member of the IGNITE network which is an NIH-funded network dedicated to supporting the implementation of genomics in healthcare. She has given multiple CE presentations focusing on pharmacogenomics. She is co-author on multiple publications related to pharmacogenomics. When she is not working at Sanford or NDSU, she continues her love of learning by taking classes for a Master of Public Health degree, and enjoys spending time with her family.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Required Instructional Components</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:</strong></td>
</tr>
<tr>
<td><strong>Values/Ethics for Interprofessional Practice.</strong> Work with individuals of other professions to maintain a climate of mutual respect and shared values.</td>
</tr>
<tr>
<td><strong>Roles/Responsibilities.</strong> Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
</tbody>
</table>
**Interprofessional Communication.** Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.

**Teams and Teamwork.** Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

**Describe your interprofessional active learning exercise:**
Given patient case scenarios, describe the role of each health professional to help achieve the best patient outcomes.

**Describe how you will assess learning:**
Multiple choice questions

**ACTIVE LEARNING**

1. MT is a 49 year old female who underwent preemptive genetic screening. She is relatively healthy and the only medication she is taking is ibuprofen as needed for headache. Her genetic test came back with the following result: Patient has a mutation of her MLH1 gene which puts the patient at increased risk for certain types of cancer. Which of the following professionals would best be suited to explain the results to both the provider and the patient and help determine next steps?
   A. Licensed Practical Nurse
   B. Medical Laboratory Technologist
   C. Pharmacist
   D. Sonographer
   **E. Genetic Counselor**

2. In question 1, why did you select the answer that you did?

   Genetic counselors receive training on disease predispositions as a result of gene variants. A genetic counselor could explain to the patient, patient’s family and provider about next steps for monitoring or more testing. LPNs, MLTs, pharmacists, and sonographers do not receive extensive training on the science or counseling patients on such sensitive health results.

3. Why are pharmacists best suited to review pharmacogenetic test results?

   Pharmacists are the medication experts and receive extensive training on drug metabolism. Genetic counselors receive little training in regards to pharmacogenetic variants and medications. Providers, such as physicians/nurse practitioners/physician assistants often have not had the training to address pharmacogenetic test results and often do not have the time to adequately review results for actionable items.

4. How do you foresee your career in health professions being impacted by precision medicine?

   Answers will vary
ASSESSMENT

1. NS is a 46 year old female who underwent preemptive genetic screening. She is relatively healthy and the only medication she is taking is a daily multivitamin. Her genetic test came back with the following result: Patient has a mutation of her MUTYH gene which puts the patient at increased risk for colon cancer. Which of the following professionals would best be suited to explain the results to both the provider and the patient and help determine next steps?
   - F. Pharmacist
   - G. Licensed Practical Nurse
   - H. Medical Laboratory Technologist
   - I. Genetic Counselor
   - J. Primary Care Provider (physician, nurse practitioner, physician assistant)

2. DU is a 76 year old male who underwent percutaneous coronary intervention in the cath lab. CYP2C19 genotyping is included in the order set. The cardiologist started the patient on clopidogrel (anti-platelet medication) while awaiting the results of the gene tic testing. CYP2C19 came back while patient was still hospitalized showing the patient as a poor metabolizer which would suggest the clopidogrel would not be effective for the patient. Which of the following professionals should take charge of changing the orders from clopidogrel to either ticagrelor or prasugrel?
   - A. Patient Scheduler
   - B. Cardiologist
   - C. Medical Laboratory Technologist
   - D. Genetic Counselor
   - E. Radiologic Technologist

3. LR is a 28 year old female with depression. Pharmacogenetic test results show patient is at increased risk for side effects and toxicity while on her current antidepressant. Recommendations for an alternative antidepressant medication would most likely be made by:
   - a. Pharmacist
   - b. Medical Assistant
   - c. Respiratory Therapist
   - d. Genetic Counselor
   - e. Biostatistician
Title and Date of IPE Grand Rounds Topic
Substance Use Disorders as Chronic Diseases: More like diabetes than pneumonia, March 1, 2019; 12-1 pm

Topic Description
The opioid epidemic in our region has devastated individuals and communities. Whether reported in lives lost or individuals devastated by the effects of a substance use disorder, none of us are out of the reach of this epidemic. We need all hands on deck in North Dakota to address this problem – public health and medicine, law enforcement and corrections, education and faith communities, behavioral health and pharmacy. This epidemic requires close collaboration between all sectors of the community.

In this Grand Rounds students from several different health professions will learn about the chronic nature of substance use disorders, with particular attention to opioid use disorders. They will consider the multidisciplinary and long-term approaches needed to prevent and manage substance use disorders in individuals and populations. Students will reflect on their attitude toward patients with substance use disorders and how that affects how we treat them.

Agenda:
1. Characteristics of chronic diseases
2. Substance use disorders as chronic diseases
3. Prevention and treatment options for individuals with substance use disorders
4. Active learning exercise
5. Assessment

Speaker Name and Contact Information
Full Name: Mark A Strand, Amy Werremeyer
Title: Professor, Associate Professor
Position/Employer: Faculty, NDSU
E-mail: mark.strand@ndsu.edu
Phone: 231-7497

Credentials and Biosketch
Degree/Credentials: PhD (Strand), PharmD, BCPP (Werremeyer)

Brief Bio sketch (to introduce you): Dr. Mark Strand is Professor in the School of Pharmacy and the Masters of Public Health Program at NDSU. Dr. Strand earned his PhD in Health and Behavioral Science from the University of Colorado in 2004. His research interests include the epidemiology of chronic diseases, including diabetes and metabolic syndrome, and models of collaboration between public health and pharmacy. At NDSU, Strand teaches Public Health for Pharmacists, Essentials in Epidemiology; Chronic disease prevention and management; and Global health.

Dr. Amy Werremeyer is Associate Professor in the School of Pharmacy at NDSU. Dr. Werremeyer earned her PharmD at NDSU in 2005 and completed a PGY1 residency at the Fargo VA in 2006. She currently practices as a Board Certified Psychiatric Pharmacist in the inpatient and partial hospital units with Sanford Health. Her research interests include patients’ lived experiences with mental illness and mental health medications and stigma of healthcare professionals and communities with regard to mental illness and substance use disorders.
**Required Instructional Components**

<table>
<thead>
<tr>
<th>Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Values/Ethics for Interprofessional Practice.</strong> Work with individuals of other professions to maintain a climate of mutual respect and shared values.</td>
</tr>
<tr>
<td><strong>Roles/Responsibilities.</strong> Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
<tr>
<td><strong>Interprofessional Communication.</strong> Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.</td>
</tr>
<tr>
<td><strong>Teams and Teamwork.</strong> Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.</td>
</tr>
</tbody>
</table>

**Describe your interprofessional active learning exercise:**

Students will answer three questions:

1. How does describing substance use disorders (SUD) as a chronic disease affect one’s attitude toward patients with a SUD?
2. How does describing substance use disorders (SUD) as a chronic disease affect one’s actions or behavior toward patients with a SUD?
3. What kinds of changes need to be made in the healthcare delivery system overall given that substance use disorders (SUD) are a chronic disease?

**Describe how you will assess learning:**

We will administer a 5-item survey, two items will assess mastery of content, two items will assess change in attitudes toward patients with substance use disorders as a result of our activity (change in attitude, did discussion with others help), and one item will elicit open-ended reflection on the impact of the exercise.

**Assessment Questions:**

1. Substance use disorders tend to be
   a. Untreatable
   b. Treatable, but with frequent recurrence
   c. Easily treated
2. Opioid addiction is a disease of the brain, just like diabetes is a disease of the body.
   a. True
   b. False
3. My attitude toward patients with substance use disorders has improved as result of this activity.
   a. Agree
   b. Disagree
4. Having a discussion at my table affected my attitude toward patients with substance use disorders in which way?
   a. Improved my attitude
   b. No change on my attitude
   c. Worsened my attitude
5. How does describing substance use disorders (SUD) as a chronic disease affect your actions or behaviors toward patients with SUD?
**Title and Date of IPE Grand Rounds Topic**

Cannabis: A Health Care Conundrum  April 5, 2019

**Topic Description**

The Complexities of Cannabis laws for health professionals.

**Speaker Name and Contact Information**

<table>
<thead>
<tr>
<th>Full Name</th>
<th>Mark Hardy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Title</td>
<td>Executive Director</td>
</tr>
<tr>
<td>Position/Employer</td>
<td>ND Board of Pharmacy</td>
</tr>
<tr>
<td>E-mail</td>
<td><a href="mailto:mhardy@ndboard.pharmacy">mhardy@ndboard.pharmacy</a></td>
</tr>
<tr>
<td>Phone</td>
<td>701-328-9535</td>
</tr>
</tbody>
</table>

**Credentials and Biosketch**

**Degree/Credentials:** Doctor of Pharmacy 2007

**Brief Bio sketch (to introduce you):**
Dr. Mark Hardy, Pharm D is the Executive Director of the ND Board of Pharmacy. Mark is a native of Neche, ND and a 2007 graduate of the North Dakota State University School of Pharmacy where he earned his Doctor of Pharmacy Degree. Previous to joining the Board, Mark worked 5 years for Thrifty White Drug in Cavalier, ND and Wadena, MN.

Mark has been active in the profession of pharmacy in North Dakota serving in leadership positions with the NDSU School of Pharmacy and the ND Pharmacist Association. Mark is the chairman of the Prescription Monitoring Program Interconnect committee which fosters interstate sharing of data between PMPs. Mark has been active within the National Association of Boards of Pharmacy serving on Task Forces, participating in multiple work groups and providing presentations of his experiences. Mark was the 2016 recipient of the Horizon Award from the NDSU Alumni Association, recipient of the Mylan Excellence in Pharmacy Award and also was awarded the Pharmacist Mutual Insurance Distinguished Young Pharmacist for 2009.
Required Instructional Components

Place a check mark by 1-2 IPEC Competencies (below) corresponding to your topic:

<table>
<thead>
<tr>
<th></th>
<th>Values/Ethics for Interprofessional Practice. Work with individuals of other professions to maintain a climate of mutual respect and shared values.</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Roles/Responsibilities. Use the knowledge of one’s own role and those of other professions to appropriately assess and address the health care needs of patients and to promote and advance the health of populations.</td>
</tr>
<tr>
<td></td>
<td>Interprofessional Communication. Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.</td>
</tr>
<tr>
<td></td>
<td>Teams and Teamwork. Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/population-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.</td>
</tr>
</tbody>
</table>

Describe your interprofessional active learning exercise:

Class discussion on relevant questions and case studies.

1. Discuss with your colleagues some patient care scenarios that you may have faced with regard to patient’s experiences with Cannabis for treatment.
2. A 19 YOF with uncontrolled epilepsy presents contemplating use of CBD oil to help with decreasing her seizure episodes. She ask for your advice on if she should utilize the FDA approved Epidiolex, consider getting authorize to buy medical marijuana, or purchasing a hemp derived CBD supplement. Discuss with your colleagues your perspective on advising this patient.

Describe how you will assess learning: ([https://www.ndsu.edu/healthprofessions/ipe](https://www.ndsu.edu/healthprofessions/ipe) Password=cannabis)

A 21-year-old male patient presents to the health care facility requesting a prescription for medical marijuana for pain associated with a ligament tear in his knee. He indicates that an edible version would be preferred due to his asthma.

Identify impediments to accessing medical marijuana in North Dakota in this case (choose all that apply)

- a. Ligament injury is not considered a debilitating condition
- b. Cannabis is contraindicated in asthma
- c. Prescriptions are not used to obtain medical marijuana
- d. He is ineligible because of his age
- e. Edible products are not allowable for use as Medical Marijuana

Correct answers = a, c, e
COURSE #: CHP/HNES 400 and SW429

CREDITS: 3 Semester Credits

PRE-REQS: PHRM 355 or NUR 341 & 342 or RS 111 or MLS 111 or RC 111

CO-REQ: HNES 354 (Dietetic students)

TIME: Section #1 1:00-2:45 pm AG Hill 130 (Hursman/Scott/Viets)
       Section #2 3:00-4:45 pm AG Hill 130 (Strom)
       Section #3 5:00-6:45 pm AG Hill 130 (Hilliard/Smith)

Note: April 29, 2019, sections 2 & 3 will meet up to 2 hours earlier than scheduled for the Interprofessional Healthcare Practice Team simulation. Students must be present and participate to pass the course. Please arrange your schedule to be free during this time!

FACULTY:
- Elizabeth Hilliard, PhD, RD, LRD. Associate Professor of Practice (Dietetics). EML Hall 316F, Phone: 231-7481; E-Mail: Elizabeth.Hilliard@ndsu.edu; Office Hours: Monday 10:00 - 11:00 am or by appointment.
- Shannon Dahms, DNP, MSN, RNC-)B, Assistant Professor of Practice (Nursing). SGC D130, Phone: 231-6698; E-Mail: Shannon.dahms@ndsu.edu; Office Hours: by appointment.
- Allison Hursman, PharmD, BCGP. Assistant Professor of Practice (Pharmacy). Sudro Hall 20B, Phone: 231-8216; E-Mail: Allison.N.Hursman@ndsu.edu; Office Hours: Wednesday 1:00 – 2:00 pm or by appointment.
- David Scott, BPharm, MPH, PhD. Professor, Department of Pharmacy Practice, School of Pharmacy, College of Health Professions. Sudro 118K. Phone: 231-5867; E-Mail: david.scott@ndsu.edu; Office hours: Thursday 2-3PM, or by appointment.
- Trish Strom, BSN, M.Ed., RN, LPC, CNML. Assistant Professor of Practice (Nursing), SGC D 133, Phone: 231-7604; E-Mail: Trish.Strom@ndsu.edu; Office Hours: Monday 10 am – 12 or by appointment.
- Kathy Smith, MSSW, LICSW. Integrated Health Therapist, Sanford Health. Phone: 701-318-1233; E-Mail: Kathy.Smith@minotstateu.edu.
- Joni Viets, PharmD, BCPS. Assistant Professor of Practice (Pharmacy), Clinical Pharmacy Specialist, Fargo VA Medical Center. Sudro Hall 118M; E-Mail: Joan.Viets@ndsu.edu; Office Hours: Wednesday 1 pm – 2 pm or by appointment.

BULLETIN DESCRIPTION:
Course designed for pharmacy, nursing, allied science, dietitians, social workers, and other allied health students focusing on the necessary knowledge, skills, and attitudes to function as an effective member of the health care team.
COURSE DESCRIPTION:
Today’s fast-paced, high acuity health care system demands health care professionals who can collaborate effectively using an interprofessional team approach in order to provide patient-centered care. Students will explore discipline specific roles and scope of practice as well as issues common to all health care professions such as communication, team dynamics, ethics, patient safety, and quality improvement.

TEACHING METHODOLOGY: BLENDED LEARNING (Online plus face-to-face instruction)
This is a 3-credit class and thus requires a minimum of 150 minutes instructional time per week. The 150 minutes are divided between an online Tegrity lecture (50 min) and face-to-face class time (100 min). The time you spend for pre-class readings and assignments is in addition to the 150 minutes of instructional time and complies with University requirements stating “for every 1 credit, a minimum of 2 hours outside of class is required” (http://bulletin.ndsu.edu/undergraduate/academic-policies/academic-credit/).

Each week, a new topic folder will open in Blackboard containing pre-class assignment instructions for the following week. It is important to complete all assignments prior to class so that you are prepared for the quiz and to put into practice what you have learned.

REQUIRED STUDENT TEXTBOOK: There is no required text. Resources will be available through NDSU library e-journals or provided by instructor. If you are unsure how to access e-journal articles from the library, please visit with a librarian at your earliest convenience.

COURSE OBJECTIVES:
This course serves as the foundation to build upon the Core Competencies for Interprofessional Collaborative Practice (Interprofessional Education Collaborative 2016. Core competencies for interprofessional collaborative practice: 2016 Update. Washington, D.C.: Interprofessional Education Collaborative).

1. Values/Ethics for Interprofessional Practice: Work with individuals of the healthcare team to maintain a climate of mutual respect and shared values.

2. Roles/Responsibilities in Interprofessional Practice: Use the knowledge of one’s own role and those of other professions to appropriately assess and address the healthcare needs of the patient to promote and advance the health of populations.

3. Interprofessional Communication: Communicate with patients, families, communities, and professionals in health and other fields in a responsive and responsible manner that supports a team approach to the promotion and maintenance of health and the prevention and treatment of disease.

4. Teams and Teamwork: Apply relationship-building values and the principles of team dynamics to perform effectively in different team roles to plan, deliver, and evaluate patient/patient-centered care and population health programs and policies that are safe, timely, efficient, effective, and equitable.

PROGRAM-LEVEL EDUCATIONAL OUTCOMES: Please see Blackboard for discipline-specific educational outcomes addressed in this course.

CRITERIA FOR EVALUATION
Student effort is expected and does not guarantee a passing grade. Grades are awarded based upon knowledge retention and demonstration of competency in the areas below.

1) Class Attendance and Professionalism (10 points/class): Students are allocated a total of 110 points at the beginning of the semester for attendance and professionalism. Deductions to this total will be made for unexcused absences and unprofessional behavior as detailed below.

Attendance. According to NDSU Policy 333 attendance is expected and this class is no different. Therefore, unexcused absences will result in a 10-point deduction from the student’s total points. In the event a student
must miss class due to illness, they must notify their instructor by noon on the day they will be absent. Determination of excused vs. unexcused absences will be up to the instructor. Students who miss class due to an excused absence must complete a make-up assignment prior to the next class in order to receive the 10 attendance points.

Professionalism. All students are required to exhibit professionalism in this class to foster a true spirit of interprofessional collaboration as demonstrated by the following:

1. **Preparation**: the extent of your reading, viewing the Tegrity lecture, and understanding the material as demonstrated by your contribution to discussion and performance on team quizzes.
2. **Contribution**: the extent you volunteered answers, asked relevant questions, expressed your own opinions, communicated knowledge specific to your role, and serving as team recorder.
3. **Team skills**: the extent you allowed others to contribute, avoided team domination, shared ideas with others, assisted others, solicited input from each member, provided positive feedback to others, and serving as team leader.
4. **Communication skills**: the quality of your expression, clarity, conciseness, use of appropriate vocabulary, volume, and confidence; displaying individual and team name at each class.
5. **Mindfulness**: includes punctuality, staying on task, and appropriate use of electronic devices.
6. **Respect**: evidenced by tolerance, treating others with dignity, including others in conversations, sitting by a member of a different discipline each week, and refraining from packing up until class is dismissed.

Unprofessional behavior by 1 team member will result in a 10-point deduction for ALL team members.

2) **Reflection Papers (2 total, 30 points each)**: Reflection and application are two critical components of the learning cycle. The reflection paper is designed to encourage both of these processes while helping you move your understanding of various topics from theory to practice. The format of the paper must be a minimum of 500 words, (typed, double spaced with 1 inch margins, 12-point font, with an Introduction, Body, and Conclusion) in which you demonstrate an understanding of the content, reflect on its significance, and discuss its application to your discipline or experiences. Papers must be submitted electronically to Safe-Assign on Blackboard by noon on the due date for full credit. Points are deducted for late assignments as follows: 10 points automatic deduction with an additional 5 points per day late. In addition to content, students are graded on spelling, grammar, and proper referencing. Please review the grading rubric on the last page of the syllabus. Students who struggle with writing are encouraged to make an appointment with the Center for Writers on campus (https://www.ndsu.edu/cfwriters).

3) **Quizzes (12 total, 10 points each)**: Students are given 10 minutes at the beginning of each class to complete a 10-point online quiz over the readings and on-line lectures. Quizzes will be taken individually or as a team upon the discretion of the instructor. If the quiz is taken as a team, all students will receive the same team score. All quizzes are online; therefore, please plan appropriately so that you are able to complete the quiz in class. Pharmacy student quizzes will be administered through ExamSoft.

4) **Interprofessional Health Care Practice Simulated Team Experience (100 points)**: Students will work in interprofessional teams with a standardized patient to formulate a team plan of care. The patient encounter will be recorded and used for evaluation and feedback. Pharmacy students will receive 1 hour of IPPE credit for the simulation experience. **Students must be present and participate in the simulation in order to pass the course.**

**FINAL GRADING SCALE:**

<table>
<thead>
<tr>
<th>Points</th>
<th>Final Grade:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Attendance and Professionalism</td>
<td>92 - 100% of total points = A (358.8 - 390 points)</td>
</tr>
<tr>
<td>Quizzes</td>
<td>84 - 91% of total points = B (327.6 – 358.7 points)</td>
</tr>
<tr>
<td>Reflection Papers</td>
<td>75 - 83% of total points = C (292.5 – 327.5 points)</td>
</tr>
<tr>
<td>Team Simulation</td>
<td>67 - 74% of total points = D (261.3 – 292.4 points)</td>
</tr>
<tr>
<td>Total Points</td>
<td>Less than 67% of total points = F (0 – 261.2 points)</td>
</tr>
</tbody>
</table>

**NOTE:** Grades will not be rounded up!
Academic Honesty:
The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.

Students with a Disability: Any students with disabilities or other special needs who need special accommodations in this course are invited to share these concerns or requests with the instructor and contact the Disability Services Office (231-8463) as soon as possible.

COURSE TOPIC OUTLINE **
** Syllabus Topic Outline &/or dates subject to change based on discretion of the instructors and class environment or circumstances. Students will be notified of changes in advance.

<table>
<thead>
<tr>
<th>Dates</th>
<th>Unit / Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>January 7, 2019</td>
<td>Class Does Not Meet – View Introduction to Interprofessional Health Care Practice – Online Lecture (Hilliard), Read Syllabus, and take online quiz!</td>
</tr>
<tr>
<td>January 14, 2019</td>
<td>Patient-Centered and Population Focused Care – Online Lecture (Nursing Faculty) The tenants of patient-centered and population-focused care are expanded to better achieve the Triple Aim (improve the patient experience of care, improve the health of populations, and reduce the per capita cost of health care). Unit Objectives: 1. Explain the difference between patient/family-centered care and traditional delivery of care 2. Examine the determinants of health and their impact on patient and population health.</td>
</tr>
<tr>
<td>January 21, 2019</td>
<td>MARTIN LUTHER KING JR. HOLIDAY - Class does not meet on this day but you ARE responsible for completing the pre-class assignments prior to next week’s class.</td>
</tr>
<tr>
<td>January 28, 2019</td>
<td>Health Care Teams – Online Lecture (Hilliard) The concepts of teamwork are discussed, including the impact on health care outcomes and the stages of the team process applied to the group process used in the classroom. Unit Objectives: 1. Describe the process of team development and the roles and practices of effective teams and leadership within the team. 2. Examine the impact the collaboration and effective teamwork has on health care outcomes. 3. Explore challenges faced by the health care team which impact collaborative practice.</td>
</tr>
<tr>
<td>February 4, 2019</td>
<td>Understanding and Appreciating Roles of Individuals on the Interprofessional Team (Scott) This unit will introduce you to the scope of practice and professional responsibilities of various health care disciplines, providing an opportunity to compare and contrast disciplines. By developing a better understanding of your own role and those of other disciplines, the contributions of other disciplines on the health care team can be better appreciated and respected. Unit Objectives: 1. Demonstrate an appreciation and respect for the contributions of each discipline on the health care team. 2. Communicate one’s role and responsibility clearly to patients, families, community members, and other professionals. 3. Explain the role and responsibility of other providers and how the team works together to provide care, promote health, and prevent disease.</td>
</tr>
<tr>
<td>Dates</td>
<td>Unit / Topic</td>
</tr>
<tr>
<td>---------------------</td>
<td>--------------------------------------------------------------------------------------------------------</td>
</tr>
<tr>
<td>February 11, 2019</td>
<td><strong>Team-based Collaborative Practice – Online Lecture (Scott)</strong>&lt;br&gt;This unit will apply the principles of team dynamics to perform effectively in different team roles to deliver patient-centered care that is safe, timely, efficient, effective, and equitable. <strong>Unit Objectives:</strong>&lt;br&gt;1. Engage healthcare and other professionals in shared patient-centered and population-focused problem-solving.&lt;br&gt;2. Integrate the knowledge and experience of healthcare and other professions to inform health and care decisions, while respecting patient and community values and priorities/preferences for care.&lt;br&gt;3. Apply leadership practices that support collaborative practice and team effectiveness.&lt;br&gt;4. Reflect on individual and team performance for individual, as well as team, improvement.</td>
</tr>
<tr>
<td>Feb. 18, 2019</td>
<td><strong>PRESIDENT'S DAY HOLIDAY</strong> - Class does not meet on this day but you ARE responsible for completing the pre-class assignments prior to next week’s class.</td>
</tr>
<tr>
<td>February 25, 2019</td>
<td><strong>Communication and Collaboration in the Health Care Team – Online Lecture (Hilliard)</strong>&lt;br&gt;This unit will address issues designed to develop effective communication skills. Barriers to communication, qualities of effective communication, and specific TeamSTEPPS™ techniques are discussed and practiced. <strong>Unit Objectives:</strong>&lt;br&gt;1. Recognize how one’s own uniqueness, including experience level, expertise, culture, power, and hierarchy within the healthcare team, contributes to effective communication, conflict resolution, and positive interprofessional working relationships.&lt;br&gt;2. Express one’s knowledge and opinions to team members with confidence, clarity, and respect, working to ensure common understanding of information, treatment, care decisions, and population health programs and policies.&lt;br&gt;3. Choose effective team communication tools and techniques to enhance patient safety.&lt;br&gt;4. Describe ways to assess patients’ health literacy and strategies to improve communication with patients and populations.</td>
</tr>
<tr>
<td>March 4, 2019</td>
<td><strong>Difficult Conversations – Online Lecture (Strom)</strong>&lt;br&gt;Challenges faced by the health care team are explored, such as disruptive behaviors on the team and conflict. Strategies used to prevent and resolve conflict within the health care team addressed. <strong>Unit Objectives:</strong>&lt;br&gt;1. Analyze strategies used to prevent or resolve conflict within the health care team.&lt;br&gt;2. Give timely, respectful, and instructive feedback to others about their performance on the team.&lt;br&gt;3. Respond respectively as a team member to feedback from others.&lt;br&gt;4. Use respectful language appropriate for a given difficult situation, crucial conversation, or conflict.</td>
</tr>
<tr>
<td>March 11, 2019</td>
<td><strong>SPRING BREAK</strong> – Be sure to complete the pre-class assignment prior to next week’s class!</td>
</tr>
<tr>
<td></td>
<td><img src="image" alt="Reflection paper assignment #1 due by 12 noon today!" /></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Date</th>
<th>Unit / Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>February 11, 2019</td>
<td><strong>Team-based Collaborative Practice – Online Lecture (Scott)</strong>&lt;br&gt;This unit will apply the principles of team dynamics to perform effectively in different team roles to deliver patient-centered care that is safe, timely, efficient, effective, and equitable. <strong>Unit Objectives:</strong>&lt;br&gt;1. Engage healthcare and other professionals in shared patient-centered and population-focused problem-solving.&lt;br&gt;2. Integrate the knowledge and experience of healthcare and other professions to inform health and care decisions, while respecting patient and community values and priorities/preferences for care.&lt;br&gt;3. Apply leadership practices that support collaborative practice and team effectiveness.&lt;br&gt;4. Reflect on individual and team performance for individual, as well as team, improvement.</td>
</tr>
<tr>
<td>Feb. 18, 2019</td>
<td><strong>PRESIDENT'S DAY HOLIDAY</strong> - Class does not meet on this day but you ARE responsible for completing the pre-class assignments prior to next week’s class.</td>
</tr>
<tr>
<td>February 25, 2019</td>
<td><strong>Communication and Collaboration in the Health Care Team – Online Lecture (Hilliard)</strong>&lt;br&gt;This unit will address issues designed to develop effective communication skills. Barriers to communication, qualities of effective communication, and specific TeamSTEPPS™ techniques are discussed and practiced. <strong>Unit Objectives:</strong>&lt;br&gt;1. Recognize how one’s own uniqueness, including experience level, expertise, culture, power, and hierarchy within the healthcare team, contributes to effective communication, conflict resolution, and positive interprofessional working relationships.&lt;br&gt;2. Express one’s knowledge and opinions to team members with confidence, clarity, and respect, working to ensure common understanding of information, treatment, care decisions, and population health programs and policies.&lt;br&gt;3. Choose effective team communication tools and techniques to enhance patient safety.&lt;br&gt;4. Describe ways to assess patients’ health literacy and strategies to improve communication with patients and populations.</td>
</tr>
<tr>
<td>March 4, 2019</td>
<td><strong>Difficult Conversations – Online Lecture (Strom)</strong>&lt;br&gt;Challenges faced by the health care team are explored, such as disruptive behaviors on the team and conflict. Strategies used to prevent and resolve conflict within the health care team addressed. <strong>Unit Objectives:</strong>&lt;br&gt;1. Analyze strategies used to prevent or resolve conflict within the health care team.&lt;br&gt;2. Give timely, respectful, and instructive feedback to others about their performance on the team.&lt;br&gt;3. Respond respectively as a team member to feedback from others.&lt;br&gt;4. Use respectful language appropriate for a given difficult situation, crucial conversation, or conflict.</td>
</tr>
<tr>
<td>March 11, 2019</td>
<td><strong>SPRING BREAK</strong> – Be sure to complete the pre-class assignment prior to next week’s class!</td>
</tr>
</tbody>
</table>

1/2/2020 5
<table>
<thead>
<tr>
<th>Dates</th>
<th>Unit / Topic</th>
</tr>
</thead>
<tbody>
<tr>
<td>March 18, 2019</td>
<td><strong>Patient Safety in Health Care I - Online Lecture (Viets/Hursman/Scott)</strong></td>
</tr>
<tr>
<td>(Week 8)</td>
<td>This unit will focus on obstacles to safety in the health care system including human, environmental,</td>
</tr>
<tr>
<td></td>
<td>and organizational factors that impact safety. Responding to error by reporting and delivering an</td>
</tr>
<tr>
<td></td>
<td>effective apology is discussed and practiced.</td>
</tr>
<tr>
<td></td>
<td><strong>Unit Objectives:</strong></td>
</tr>
<tr>
<td></td>
<td>1. Differentiate between health care errors, adverse events, near misses, and sentinel events.</td>
</tr>
<tr>
<td></td>
<td>2. Classify factors contributing to medical errors into 3 broad categories; human, environmental,</td>
</tr>
<tr>
<td></td>
<td>and organizational.</td>
</tr>
<tr>
<td></td>
<td>3. Apply knowledge of human factors to reduce errors.</td>
</tr>
<tr>
<td></td>
<td>4. Demonstrate the structure and content of an effective apology.</td>
</tr>
<tr>
<td>March 25, 2019</td>
<td><strong>Patient Safety in Health Care II – Online Lecture (Viets/Hursman/Scott)</strong></td>
</tr>
<tr>
<td>(Week 9)</td>
<td>A systems-based approach to responding to, and analyzing, medical error will be discussed.</td>
</tr>
<tr>
<td></td>
<td>Case studies will allow students to use models to analyze adverse events and recommend safety</td>
</tr>
<tr>
<td></td>
<td>strategies.</td>
</tr>
<tr>
<td></td>
<td><strong>Unit Objectives:</strong></td>
</tr>
<tr>
<td></td>
<td>1. Describe the benefits of a systems approach to patient safety compared to a traditional approach.</td>
</tr>
<tr>
<td></td>
<td>2. Explore common methods to analyze adverse events and reduce errors in health care.</td>
</tr>
<tr>
<td></td>
<td>3. Recommend safety strategies to decrease/prevent medical error in health care.</td>
</tr>
<tr>
<td>April 1, 2019</td>
<td><strong>Ethical Principles and Ethical Decision Making - Online Lecture (Nursing Faculty)</strong></td>
</tr>
<tr>
<td>(Week 10)</td>
<td>Ethical principles common to all health care disciplines and interprofessional ethical considerations in</td>
</tr>
<tr>
<td></td>
<td>delivering health care.</td>
</tr>
<tr>
<td></td>
<td><strong>Unit Objectives:</strong></td>
</tr>
<tr>
<td></td>
<td>1. Demonstrate an understanding of bioethical principles (maleficence, beneficence, autonomy, &amp; justice)</td>
</tr>
<tr>
<td></td>
<td>and how they relate to caring for patients and populations.</td>
</tr>
<tr>
<td></td>
<td>2. Develop consensus on the ethical principles to guide all aspects of team work.</td>
</tr>
<tr>
<td></td>
<td>3. Apply ethical decision making to a clinical case scenario.</td>
</tr>
<tr>
<td>April 8, 2019</td>
<td><strong>Improving Quality in Healthcare – Online Lecture (Strom)</strong></td>
</tr>
<tr>
<td>(Week 11)</td>
<td>The concept of quality and quality improvement in health care will be examined. Students will</td>
</tr>
<tr>
<td></td>
<td>explore how measuring and continually improving quality transforms health care and their role in the</td>
</tr>
<tr>
<td></td>
<td>process.</td>
</tr>
<tr>
<td></td>
<td><strong>Unit Objectives:</strong></td>
</tr>
<tr>
<td></td>
<td>1. Define quality improvement and quality assurance in relation to healthcare.</td>
</tr>
<tr>
<td></td>
<td>2. Describe the roles of the Health and Medicine Division (HMD), Institute for Healthcare Improvement</td>
</tr>
<tr>
<td></td>
<td>(IHI), and Insurers (Medicare, Medicaid, and Private Insurance) as they relate to improving</td>
</tr>
<tr>
<td></td>
<td>healthcare quality.</td>
</tr>
<tr>
<td></td>
<td>3. Identify ways in which quality is measured (quality indicators, payment incentives, reporting</td>
</tr>
<tr>
<td></td>
<td>sites, recognition programs, and/or accreditation).</td>
</tr>
<tr>
<td></td>
<td>4. Define and design an aim statement using S.M.A.R.T criteria and PDSA cycle for quality</td>
</tr>
<tr>
<td></td>
<td>improvement.</td>
</tr>
<tr>
<td>April 15, 2019</td>
<td><strong>Simulated Team Experience Practice- Online lecture (Viets/Hursman/Scott)</strong></td>
</tr>
<tr>
<td>(Week 12)</td>
<td></td>
</tr>
<tr>
<td>April 22, 2019</td>
<td><strong>HOLIDAY-</strong> Be sure to complete the pre-class assignments prior to next week’s class!</td>
</tr>
<tr>
<td>April 29, 2019</td>
<td><strong>Interprofessional Health Care Practice Simulated Team Experience – Location and time TBA!</strong></td>
</tr>
<tr>
<td>(Week 13)</td>
<td>(This simulation provides 1 hour of IPPE credit for Pharmacy students.)</td>
</tr>
</tbody>
</table>

1/2/2020
COURSE POLICIES

Acceptable Use Policy:
The use of iPads or cell phones to capture images, video, or audio of course content or assessment is prohibited unless approved by faculty.

Instructional Continuity Policy:
In the event this class is not able to meet face-to-face for an extended period of time (e.g. 2 weeks or longer) the instructor will communicate with the student using Blackboard announcements &/or Blackboard email. Students may communicate with instructors using Blackboard email or by phone. Depending upon the nature of the classroom disruption, please allow 48-72 hours for a response. Course content will be delivered via Blackboard. Depending upon the nature and length of classroom disruption, course requirements may be modified and grading adjusted accordingly. Students will be notified of any modifications in course requirements or grading.

If a student becomes ill, hospitalized, or has a medical condition which precludes them from physically coming to class for 2 weeks or longer, the instructor will provide reasonable accommodations to ensure instructional continuity. The student must: 1) notify the instructor within 48 hours of the extended absence; 2) identify the reason for and anticipated length of the absence; 3) provide written documentation for the extended absence; and 4) communicate weekly with the instructor during the absence.

REFLECTION PAPER GRADING RUBRIC

NOTE: Reflection and application are two critical components of the learning cycle. The reflection paper encourages both of these processes while helping you move your understanding of various topics from theory to practice.

Paper Format: The reflection paper must be a minimum of 500 words, typed, double spaced with 1 inch margins, 12-point font, and includes an Introduction, Body, and Conclusion.

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Not Acceptable (0 Points)</th>
<th>Fair (1-3 Points)</th>
<th>Acceptable (4-6 Points)</th>
<th>Good (7-9 Points)</th>
<th>Excellent (10-12 Points)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Assignment Requirements</td>
<td>• Most requirements of the paper are lacking, or Not all questions addressed in paper.</td>
<td>• Most requirements of the paper are present, or Most questions addressed in paper.</td>
<td>• All of the assignment requirements met Responded to all reflection questions.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Quality of Response 1</td>
<td>• Response is treated simplistically Expresses superficial opinions Is plagiarized</td>
<td>• Response is merely a summary or description of new knowledge from the readings &amp;/or lecture Lacks a personal connection to the topic</td>
<td>• Somewhat integrates new knowledge from the readings &amp;/or lecture into personal experiences Demonstrates some thoughtful insight into lessons learned but with few supporting examples Could still be improved</td>
<td>• Demonstrates thoughtful insight relating new knowledge to prior behavior or past experiences Offers reasoned discussion well supported by examples regarding challenges &amp;/or lessons learned. Response is clearly stated and easy to follow.</td>
<td>All elements of “Good” plus Relates new knowledge to benefit future professional practice, and Provides strategies into how personal changes can be made</td>
</tr>
</tbody>
</table>
| Format, Sentence Structure, Grammar and Spelling | • Paper missing multiple elements of specified format (above)  
• Word count unacceptable  
• Paper contains numerous grammatical, punctuation, &/or spelling errors | • Paper contains an accumulation of spelling, or grammatical errors that detract from the readability of the paper  
• Some elements of specified format missing | • Paper contains a few grammatical, punctuation, &/or spelling errors.  
• Readability could be improved. | • Paper contains minimal to no errors in grammar, punctuation or spelling  
• Language is clear, precise, and concise |

PHRM 455 Introductory Pharmacy Practice (IPPE) II:
Introduction to Community Pharmacy Practice
4 Credits
Summer 2019

Meeting Times: Pre-IPPE Required Training
Required Training One (April 24, 2019 9:00 AM to 11:00 AM)

IPPE Hours (arranged)
IPPE Rotation One: May 20, 2019 through June 14, 2019
IPPE Rotation Two: June 17, 2019 through July 12, 2019

Instructors: Adjunct Clinical Instructors of Pharmacy Practice

Course Coordinator: Rebecca Brynjulson, PharmD, BCACP
Director, Introductory Pharmacy Practice Experiences
Sudro Hall, 20B
Phone: 701-231-7477
Rebecca.Brynjulson@ndsu.edu
Office Hours: 7:00-10:00 am Wednesdays or by appointment

Experiential Education Administrative Assistant: Sudro Hall, Room 20
Phone: 701-231-5576
Fax: 701-231-7606
Experiential Education Office Hours: 10:00 a.m.-4:00 p.m., Monday through Friday

General Course Information

Bulletin Description: IPPE II is designed to be an introduction to community based pharmacy practice. This course consists of a 4 week, 160 hour, unpaid, supervised pharmacy practice experience in a community pharmacy setting and required reflections. Pass/Fail grading.

Pre-requisites:
1. Successful completion (Grade of “C” or better) first professional year coursework, PHRM 400, PHRM 450, PHRM 452L, and PHRM 565.
3. Successful completion of health and background check requirements.
4. Current North Dakota pharmacy intern license AND additional pharmacy intern licensure as required by non-North Dakota practice sites.
5. Students are required to carry at least minimal limits of professional liability insurance, which is provided by the University.

Student Learning Resources:
1. IPPE II Student Handbook
2. Experiential Education Policies and Procedures
3. Electronic access to Blackboard. Resources and Information related to all course components is found in the course Blackboard site. Blackboard site also contains electronic access to IPPE II Handbook and Experiential Education Policies and Procedures.


Instructional Methods:

☐ Audience Response Technology (clickers)  ☐ Case-Based Learning  ☐ Demonstration
☒ Direct patient care (IPPE*)  ☐ Discussion - Large Group  ☐ Discussion – Small Group
☒ Experiential (IPPE or APPE)  ☐ Interprofessional Activities  ☐ Lecture  ☐ Pre-Recorded Lectures / Videos  ☐ Role Play  ☒ Self-Directed Learning  ☐ Simulation (IPPE*)  ☐ Simulation (Non-IPPE)  ☐ Team-Based Learning  ☐ Tegrity  ☐ Other: reflective writing, online discussion groups through Blackboard, course assignments.

* Include activity title, brief description, simulation or direct patient care, and number of hours for each activity in Course Outline section and report it to Director of IPPE.

Program-Level Ability-Based Outcomes and Course Objectives

PharmD Ability Based Outcomes Addressed in this Course:

Domain 1. Foundational Knowledge
☒ 1.1 Integrate knowledge from foundational sciences to explain how specific drugs or drug classes work and evaluate their potential value in individuals and populations.
☒ 1.2 Apply knowledge in foundational sciences to solve therapeutic problems and advance patient centered care.
☒ 1.3 Critically analyze scientific literature related to drugs and disease to enhance clinical decision-making.

Domain 2. Essentials for Practice and Care

2.1 Patient-Centered Care
☒ 2.1.1 Collect and interpret subjective and objective evidence related to patient, medications, allergies/adverse reactions, and disease.
☒ 2.1.3 Formulate assessments and implement evidence based care plans and recommendations.
☒ 2.1.5 Document patient care related activities.

2.2 Medication Use Systems Management
☒ 2.2.2 Identify and utilize resources to optimize the safety and efficacy of medication use systems.
☒ 2.2.4 Apply standards, guidelines, best practices, and established processes related to safe and effective medication use.
☒ 2.2.5 Utilize continuous quality improvement techniques in the medication use process.
☒ 2.2.6 Accurately select, prepare, and dispense medications (prescriptions, non-prescription, sterile, and non-sterile dosage forms).

2.3 Health and Wellness
☒ 2.3.2 Provide prevention, intervention, and educational strategies for individuals and communities to improve health and wellness.
☒ 2.3.3 Evaluate personal, social, economic, and environmental conditions to maximize health and wellness.

Domain 3. Approach to Practice and Care

3.1 Problem Solving
☒ 3.1.1 Identify and define the primary problem.
☒ 3.1.2 Define goals and alternative goals.
☒ 3.1.3 Within the context of the problem, explore multiple solutions by organizing, prioritizing, and defending each possible solution.
☒ 3.1.4 Identify possible positive and negative outcomes by reviewing assumptions, inconsistencies, and unintended con-sequences.
☒ 3.1.5 Implement the most viable solution, including monitoring parameters, to measure intended and unintended consequences.
☒ 3.1.6 Reflect on the solution implemented and evaluate its effects to improve future performance.

3.2 Education
3.2.1 Assess the need for pharmacist-delivered education.
3.2.2 Retrieve, analyze, and interpret the professional, lay, and scientific literature to effectively communicate information to a specific audience.
3.2.3 Select the most effective techniques/strategies to achieve learning objectives for education given to a specific audience.
3.2.4 Deliver the education to the intended audience.
3.2.5 Assess audience comprehension to ensure effective instruction/education was achieved.

3.3 Patient Advocacy
3.3.1 Empower patients to take responsibility for, and control of, their health.

3.4 Interprofessional Collaboration
3.4.1. Establish a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs.
3.4.2. Incorporate the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable.
3.4.3. Communicate in a manner that values team based decision making and shows respect for contributions from other areas of expertise.

3.5 Cultural Sensitivity
3.5.2 Demonstrate an attitude that is respectful of different cultures.
3.5.4 Appropriately incorporate patients’ cultural beliefs and practices into patient care.

3.6 Communication
3.6.1 Demonstrate effective interpersonal skills when interacting with others to establish rapport and build trusting relationships.
3.6.2 Actively listen and ask appropriate open and closed-ended questions to gather information.
3.6.3 Interview patients using an organized structure, specific questioning techniques (e.g., motivational interviewing), and medical terminology adapted for the audience.
3.6.4 Communicate assertively, persuasively, confidently, and clearly.
3.6.6 Elicit feedback, validating understanding of communication.

Domain 4. Personal and Professional Development
4.1.1 Demonstrate motivation, attention, and interest (e.g. habits of mind) during learning and work-related activities.
4.1.2 Identify, create, implement, evaluate and modify plans for personal and professional development for the purpose of individual growth.
4.1.6 Demonstrate self-confidence when working with patients, families, and members of the healthcare team.

4.4 Professionalism
4.4.1 Demonstrate empathy, compassion, integrity, and respect for others.
4.4.2 Demonstrate preparation, initiative, and accountability consistent with a commitment to excellence.
4.4.3 Demonstrate a commitment to legal and ethical principles pertaining to provision of patient centered care, including compliance with relevant laws, policies, and regulations.
4.4.4 Demonstrate mindfulness of the environment, recognizing that one’s professionalism is constantly evaluated by others.

Course Objectives:

<table>
<thead>
<tr>
<th>Ability Based Outcome Domain and Subdomain</th>
<th>Student Specific Rotation Objectives and Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Foundational Knowledge</td>
<td>1. Apply knowledge and principles of pathophysiology, pharmaceutics, pharmacodynamics, and pharmacokinetics to practice patient centered care.</td>
</tr>
<tr>
<td></td>
<td>2. Critically analyze scientific literature related to drugs and disease to enhance clinical decision making and respond to drug information requests.</td>
</tr>
<tr>
<td>Essentials for Practice and Care</td>
<td></td>
</tr>
<tr>
<td>---------------------------------</td>
<td>---------------------------------------------</td>
</tr>
<tr>
<td>Patient Centered Care, Medication Use Management, Health and Wellness</td>
<td>1. Demonstrate the ability to collect and interpret information from a patient’s to determine a patient’s health related needs.</td>
</tr>
<tr>
<td></td>
<td>2. Demonstrate the ability to document patient centered care.</td>
</tr>
<tr>
<td></td>
<td>3. Demonstrate the ability to perform screenings accurately (e.g. blood pressure, point of care) and immunization administration, when applicable.</td>
</tr>
<tr>
<td></td>
<td>5. Demonstrate knowledge and understanding of community pharmacy practice while completing activities in a community pharmacy including accurate dispensing of outpatient prescription medications, selecting and recommending appropriate over the counter medications, patient interviews/consultations, medication therapy management, immunization, health screenings, immunization administration, and non-sterile compounding (USP &lt;795&gt;).</td>
</tr>
<tr>
<td></td>
<td>6. Accurately select and prepare medications to fulfill a medication order/prescription.</td>
</tr>
<tr>
<td></td>
<td>7. Evaluate prescriptions for legal requirements and appropriate dosing.</td>
</tr>
<tr>
<td></td>
<td>8. Perform pharmacy calculations accurately.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Approach to Practice and Care</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>2. Provide counseling to patients and/or caregivers.</td>
</tr>
<tr>
<td></td>
<td>3. Empower patients to take responsibility for, and control of, their health.</td>
</tr>
<tr>
<td></td>
<td>4. Establish a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs.</td>
</tr>
<tr>
<td></td>
<td>5. Actively participate and engage as a healthcare team member by demonstrating mutual respect, understanding and shared vision to meet patient care needs.</td>
</tr>
<tr>
<td></td>
<td>6. Identify and evaluate the role of both pharmacy and non-pharmacy providers as members of an interdisciplinary health care team within the community pharmacy setting.</td>
</tr>
<tr>
<td></td>
<td>7. Demonstrate an attitude that is respectful of different cultures appropriately incorporating patients’ cultural beliefs and practices into patient care.</td>
</tr>
<tr>
<td></td>
<td>9. Practice appropriate verbal, nonverbal, and written communication skills within the healthcare system with patients, peers, and healthcare providers.</td>
</tr>
<tr>
<td></td>
<td>10. Interview patients in the provision of patient centered care.</td>
</tr>
<tr>
<td></td>
<td>11. Engage in appropriate communication with professional peers.</td>
</tr>
</tbody>
</table>

| Personal and Professional Development |  |
Self-awareness, Professionalism

1. Self-assess learning needs and design, implement, and evaluate strategies to promote intellectual growth and continued professional development in the area of hospital and health systems pharmacy practice.
2. Reflect on practice experiences.
3. Demonstrate motivation, attention, and interest (habits of mind) during learning and work related activities.
4. Demonstrates the knowledge and abilities to function in accordance with pharmacy laws and regulations.
5. Apply concepts of HIPAA in situations involving disclosure of patient health information
6. Demonstrate preparation, initiative, and accountability with a commitment to excellence.

It is the responsibility of the preceptor to provide learning opportunities at his/her practice site that allow the student to achieve the objectives and responsibilities outlined above. Please refer to IPPE II Student Handbook for the list of activities appropriate for IPPE students to meet community IPPE objectives.

### Evaluation and Grading Criteria

#### Assessment Methods:
- ☒ Assignment
- □ Comprehensive Final Exam
- □ Exam
- □ Oral Presentation
- □ OSCE / Simulation
- □ Participation
- □ Peer Assessment
- □ Paper
- □ Practical (Lab)
- □ Research / Project
- □ Reflection
- □ Quiz
- ☒ Self-Assessment
- ☒ Other: Preceptor Evaluation of Student, Survey

#### Grading Criteria:

All grading rubrics/evaluation forms for this course are located in the IPPE II Student Handbook, and are posted electronically in Blackboard and E*Value.

Students must complete and submit **ALL** course assignments to pass the course. In addition, students must earn ≥80% of available points AND Pass the Preceptor Evaluation of Student and Reflection assignment to pass the course.

Students will have 48 hours to submit late work for partial credit, however, it will be worth a maximum of 50% of the original credit (e.g. a 5 point assignment submitted up to 48 hours late will only earn 2.5 points toward your final grade). After 48 hours, assignments will be accepted for successful completion of the course, but no additional points will be earned toward the final grade.

Assignment due dates are listed in the Course Schedule Outline section of the syllabus.

<table>
<thead>
<tr>
<th>Assignment</th>
<th>Points</th>
<th>Indicator of Successful Completion</th>
</tr>
</thead>
<tbody>
<tr>
<td>Individualized Learning Objectives posted to Blackboard Discussion Board</td>
<td>2.5</td>
<td>Post to Blackboard Discussion Group by due date/time</td>
</tr>
<tr>
<td>Peer Feedback in Blackboard provided on Individualized Learning Objectives</td>
<td>2.5</td>
<td>Post to Blackboard Discussion Group by due date/time</td>
</tr>
<tr>
<td>Revised/Final Individualized Learning Objectives submitted to E*Value</td>
<td>5</td>
<td>Submit to E*Value Learning Modules/Coursework by due date/time</td>
</tr>
<tr>
<td>Drug Information Request Assignment</td>
<td>10 points</td>
<td>Submit to E*Value Learning Modules/Coursework by due date/time</td>
</tr>
<tr>
<td>------------------------------------</td>
<td>-----------</td>
<td>---------------------------------------------------------------</td>
</tr>
<tr>
<td>Current Event Topic</td>
<td>5 points</td>
<td>Submit to E*Value Learning Modules/Coursework by due date/time</td>
</tr>
<tr>
<td>Case Logs: Minimum of 40 Prescription Consultations</td>
<td>2.5 points</td>
<td>Submit to E*Value Case Logs by due date/time</td>
</tr>
<tr>
<td>Case Logs: Minimum of 10 Self-Care Consultations</td>
<td>2.5 points</td>
<td>Submit to E*Value Case Logs by due date/time</td>
</tr>
<tr>
<td>Case Logs: Minimum of 4 Patient Interviews</td>
<td>2.5 points</td>
<td>Submit to E*Value Case Logs by due date/time</td>
</tr>
<tr>
<td>Case Logs: Minimum of 4 Interprofessional Healthcare Provider Interactions</td>
<td>2.5 points</td>
<td>Submit to E*Value Case Logs by due date/time</td>
</tr>
<tr>
<td>Internship in community pharmacy practice setting (160 IPPE hours)*</td>
<td>Pass</td>
<td>Pass, Preceptor Evaluation of Student (see grading criteria below)</td>
</tr>
<tr>
<td>Electronic Evaluation of Preceptor/Site</td>
<td>10 points</td>
<td>Completion through E*Value by due date/time</td>
</tr>
<tr>
<td>IPPE Healthcare Professional/Student and Patient Interaction Survey</td>
<td>10 points</td>
<td>Completion through E*Value by due date/time</td>
</tr>
<tr>
<td>Reflection (4 IPPE hours)*</td>
<td>15 points/Pass</td>
<td>Submit to E*Value Learning Modules/Coursework by due date/time. Graded using IPPE Reflection Rubric.</td>
</tr>
</tbody>
</table>

**TOTAL POINTS** 70 points*

*Total course clock hours toward IPPE curriculum requirements in this course: 164 hours. A passing score must be achieved on both the preceptor evaluation of student and reflection in order to meet all IPPE hour requirements of the course and pass the course. If a student submits a reflection that meets course expectations (passing score), but submits the assignment late losing either part or all of the points associated with the assignment, the assignment will still be considered meeting IPPE hour requirements of the course. The student can still pass the course in this instance provided the student passes the preceptor evaluation of student and earns the minimum of 80% of total course points.

All student performance during supervised introductory pharmacy practice experiences will be evaluated by preceptors using a standard PHRM 455 evaluation based upon entrustable professional activities (EPA’s) mapped to programmatic ABO’s.

<table>
<thead>
<tr>
<th>Score achieved on the PHRM 455 Preceptor Evaluation of Student</th>
<th>Resulting Grade on Preceptor Evaluation of Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions 1-14: “Meets or exceeds level of entrustment” and “Yes” AND Questions 15-17: Yes</td>
<td>Pass</td>
</tr>
<tr>
<td>Questions 1-14: One response of “Does not meet this level of entrustment” or “Needs Improvement” AND Questions 15-17: Yes</td>
<td>Pass, with remediation*</td>
</tr>
</tbody>
</table>
Questions 1-14: Two or more responses of “Does not meet this level of entrustment” or “Needs Improvement”  
OR  
Question 13 & 14: One or more response of “No”  
OR  
Questions 15-17: One or more response of “No”  

Fail

*Students who score a “Needs Improvement” on Questions 13 or 14 will be given a standard assignment to be completed in addition to other course requirements. If remediation on these questions was also required in PHRM 355, the student would not pass PHRM 455. Other remediation plans will be determined by the Director of IPPE and the student.

Final Grade: The Grading System used to monitor academic performance for the Introductory Pharmacy Practice Experience consists of:

P (Pass): Indicates that the student has successfully completed the work of the Introductory Pharmacy Practice Experience.

F (Fail): Indicates either that student performance was unsatisfactory or that the student did not complete the work of the Introductory Pharmacy Practice Experience.

<table>
<thead>
<tr>
<th>Final Grade</th>
</tr>
</thead>
<tbody>
<tr>
<td>P (Pass)**</td>
</tr>
<tr>
<td>• Pass Preceptor Evaluation of Student AND Reflection AND earn ≥ 56 points.</td>
</tr>
<tr>
<td>OR</td>
</tr>
<tr>
<td>• Pass Preceptor Evaluation of Student, with successful remediation AND Reflection AND earn ≥ 56 points.</td>
</tr>
</tbody>
</table>

| F (Fail) |
| • Pass Preceptor Evaluation of Student AND Reflection AND earn < 56 points. |
| OR |
| • Fail Preceptor Evaluation of Student OR Reflection, regardless of points earned |

Students will have 48 hours to submit late work for partial credit, however, it will be worth a maximum of 50% of the original credit (e.g. a 5 point assignment submitted up to 48 hours late will only earn 2.5 points toward your final grade). After 48 hours, assignments will be accepted for successful completion of the course, but no additional points will be earned toward the final grade.

**A passing score must be achieved on the preceptor evaluation of student and reflection in order to meet all IPPE hour requirements of the course and pass the course. If a student submits a reflection that meets course expectations (passing score), but submits the assignment late losing either part or all of the points associated with the assignment, the assignment will still be considered meeting IPPE hour requirements of the course. The student can still pass the course in this instance provided the student passes the preceptor evaluation of student and earns the minimum of 80% of total course points.**
Course Schedule Outline

In this course, students will complete the following activities:

1. **Assignments due before practice experience**
   a. Individualized Learning Objectives Assignment and Small Group Discussion

2. **Introductory Pharmacy Practice Experience II**
   a. 4-week, 160 hour unpaid pharmacy practice experience in a community pharmacy practice setting

3. **IPPE Assignments to be completed during Introductory Pharmacy Practice Experience II**
   a. Preceptor Discussion of Learning Objectives
   b. Research a Current Event Topic
   c. Drug Information Request Assignment
   d. Patient Communication Assignments/Assessment
      i. Patient Interviews
      ii. Patient Consultations on Prescription Products
      iii. Patient Consultations on Non Prescription Products
   e. Interprofessional Healthcare Provider Communication

4. **Assignments due after practice experience**
   a. Electronic Evaluation of Preceptor/Site
   b. IPPE Healthcare Professional/Student and Patient Interaction Survey
   c. Reflection

**Assignments Due before Practice Experiences Begin**

**IPPE Individualized Learning Objectives Small Group Discussion**

Due: In Blackboard, May 13, 2019 at 4:00 p.m.
Due: In Blackboard, May 17, 2019 at 4:00 p.m.

This discussion will be completed online in Blackboard among the student’s assigned small group. Each student in the group should start a thread with at least three individualized learning objectives that he/she has for his/her community IPPE. Individualized learning objectives must be posted by May 13, 2019 at 4:00 p.m.

Each student should read the individualized learning objectives for each of the other members of the group and must post at least one comment on the learning objectives of each group member providing constructive feedback to group members on ways to improve learning objectives by May 17, 2019 at 4:00 p.m.

Students should discuss these goals/objectives with their preceptor within the first week of their rotation and plan for completion of their goals throughout their practice experience.

**Assignments Due During Practice Experiences**

**Discuss Individualized Learning Objectives with Preceptor**

Due: IPPE Week One
   Rotation One: May 24, 2019 at 11:59 p.m.
   Rotation Two: June 21, 2019 at 11:59 p.m.

Taking into account the comments received from members in the online small group discussion and input from the preceptor/site during week one, the student should post his/her finalized learning objectives into Learning Modules/Coursework in E*Value by May 24, 2019 at 11:59 p.m. (Rotation One) OR June 21, 2019 at 11:59 p.m. (Rotation Two).
The preceptor will verify that this was completed in the electronic preceptor evaluation of the student.

**Drug Information Request Assignment**

<table>
<thead>
<tr>
<th>Due:</th>
<th>IPPE Week Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation One:</td>
<td>June 14, 2019 at 11:59 p.m.</td>
</tr>
<tr>
<td>Rotation Two:</td>
<td>July 12, 2019 at 11:59 p.m.</td>
</tr>
</tbody>
</table>

_This assignment may be completed at any time throughout the four week rotation._

Pharmacists are routinely asked to provide drug information to healthcare providers. Responses to information requests from healthcare providers should be clear, succinct, and accurate taking into account primary, secondary and tertiary literature.

_Students should work with their preceptor to identify at least one drug information request from a healthcare provider to respond to during their experience._

The drug information request response should be ½ page typed, single spaced, excluding references. References should be documented using biomedical style/Chicago style (as used in PHRM 480: Drug Literature Evaluation).

_A copy of the student’s completed drug information request must be provided to and discussed with their preceptor. Preceptors will evaluate the quality of the student’s drug information responses in the final evaluation using the following evaluation question:_

- Retrieve and analyze scientific literature to answer a drug information request.

The Drug Information Request Assignment will be uploaded E*Value under Learning Modules/Coursework.

**Current Event Topic**

<table>
<thead>
<tr>
<th>Due:</th>
<th>IPPE Week Four</th>
</tr>
</thead>
<tbody>
<tr>
<td>Rotation One:</td>
<td>June 14, 2019 at 11:59 p.m.</td>
</tr>
<tr>
<td>Rotation Two:</td>
<td>July 12, 2019 at 11:59 p.m.</td>
</tr>
</tbody>
</table>

_This assignment should be completed by the end of the fourth week and reviewed with preceptor._

Pharmacists are commonly asked about recent medication or health related topics that have been discussed in the news or written about in newspapers, magazines, etc. It is important for pharmacists to be knowledgeable about current events relating to healthcare. This knowledge and ability to discuss current events with patients helps to build and maintain the trust and confidence patients have in their pharmacist.

In this assignment, students will need to research on their own a current event related to pharmacy practice recently talked about in the media. The student should state the nature of the current event, source it is taken from, and discuss the impact of this topic in patient care and/or community pharmacy practice.

The student will be expected to discuss his/her findings with their preceptor. The preceptor does not evaluate the student performance of this activity. The student will reflect on what he/she learned in the reflection graded by faculty at the college.

**Case Logs**

| Due: | IPPE Week One, Two, Three and Four |

_This assignment should be completed each week and your progress should be reviewed with your preceptor weekly by providing your preceptor with a weekly case log report to view. At the end of the rotation, your preceptor will respond to an evaluation question inquiring if this process was completed._

Each week the report should begin from the start date of your rotation so that you can see your progress from week to week. The last report for week four should be from the first day of your rotation until the last day of your rotation.
The following assignments will be logged using case logs in aggregate over the four weeks: 4 patient interviews, 40 prescription consultations, 10 non-prescription consultations, and four interprofessional healthcare provider interactions.

**Patient Interviews**
Students will be expected to interview at least four patient about their medication use during their IPPE experience. These interviews are defined to be meaningful patient encounters and may occur surrounding self-care recommendations, medication therapy management, and/or pick up of new and refilled prescriptions. Please refer to resources posted in Blackboard for specific examples that would qualify for the patient interview requirement. Students will log their Patient Interviews in E*Value in Case Logs.

**Patient Consultations (Prescription)**
Students will be expected to provide at least 40 prescription consultations during their IPPE experience. Students will log these consultations in E*Value in Case Logs.

**Patient Consultation (Non-Prescription)**
Students will be expected to provide at least 10 non-prescription consultations during their IPPE experiences. Students will log these consultations in E*Value in Case Logs.

**Interprofessional Healthcare Provider Communication**
Students will be expected to interact with other healthcare providers using written and/or verbal communication at least four times during their IPPE experiences. Students will log these interactions in E*Value in Case Logs.

Additional directions for how to log these assignments in Case Logs, including step by step screenshots, will be uploaded into Blackboard prior to the start of IPPE rotations for your review.

---

**Assignments Due Following Practice Experiences**

**Student Evaluation of Preceptor/Site**
Due: One week following IPPE
- Rotation One: June 21, 2019 at 11:59 p.m.
- Rotation Two: July 19, 2019 at 11:59 p.m.

This evaluation will be generated electronically and emailed to you via E*Value during the final week of your experience.

**IPPE Healthcare Professional/Student and Patient Interaction Survey**
Due: One week following IPPE
- Rotation One: June 21, 2019 at 11:59 p.m.
- Rotation Two: July 19, 2019 at 11:59 p.m.

This survey will be generated electronically and emailed to you via E*Value during the final week of your experience.

**Written Reflection Document**
Due: Two weeks following IPPE
- Rotation One: June 28, 2019 at 11:59 p.m.
- Rotation Two: July 26, 2019 at 11:59 p.m.

This assignment meets the requirement for four hours of reflection following the practice experience.

Submit a typewritten essay at least four pages but no more than six pages in length (double spaced in 12 point Times New Roman font with one inch margins) answering the following questions regarding your practice experience:
1. Explain how you were able to achieve the personalized goals and objectives you set for yourself during the first week of your rotation.

2. Describe your Current Events Topic. What did you learn about it? Did patients inquire about this topic in your pharmacy? How did you or your preceptor respond? How will this topic impact your future career as a pharmacist?

3. How were you able to use information and/or see information you’ve learned in your pharmacy coursework (lectures or lab) applied in a community pharmacy practice setting? Give specific examples.

4. Describe how you were able to improve your communication skills (patient interviewing, prescription and nonprescription consultation) during this rotation.

5. Describe your experiences working together with other members of the healthcare team (other healthcare professionals) while completing your IPPE. Was there added value to patient care when collaborations occurred?

6. Now that you’ve completed your introductory pharmacy practice experience in community practice, what goals and objectives related to community practice are you looking forward to achieving during your advanced pharmacy practice experience?

The reflection will be uploaded into E*Value under Learning Modules and Coursework.

PROFESSIONALISM

Students will be expected to dress and behave professionally during practice experiences. Please refer to the dress code located within your IPPE II Student Handbook and posted in E*Value.

INTERPROFESSIONAL EDUCATION (IPE)

Students are expected to have significant opportunities for interactions with other non-pharmacy healthcare professionals, and when possible, other healthcare professional students. It is the responsibility of the preceptor to provide learning opportunities at his/her practice site that allow the student to achieve the interprofessional learning objectives and assignments outlined in this syllabus. In addition to the rotation experience itself and related interprofessional education assignment (drug information request and required interprofessional healthcare provider communication), each student will complete a survey at the end of the rotation to describe the nature and extent of health care professional/student and patient interactions during his/her IPPE rotation.

INSTRUCTIONAL CONTINUITY PLAN FOR DISRUPTION OF CLASSROOM ACTIVITIES

INCLEMENT WEATHER

Students in the Fargo-Moorhead area are not expected to report to Experiential Education sites if classes at North Dakota State University have been cancelled due to inclement weather conditions or weather conditions are such that a student could not travel safely to and from the practice site. Students located outside the F-M area shall follow the local public school policy, and in case of closure, shall contact their preceptor directly for instructions. Students, who miss hours due to inclement weather, should work with their preceptors and the Experiential Office to make up lost time.

SICK LEAVE

In order to meet accreditation standards, students are required to complete 160 hours at his/her practice site for this practice experience.

In the event of an acute illness which requires the student to miss his/her scheduled practice experience for 8 hours or less, the student should first contact their pharmacist preceptor by phone as soon as possible on the day of the illness to let him/her know of the situation. The student and preceptor will work together to identify a plan to make up the hours missed due to an acute illness.

In the event of an acute illness which requires the student to miss his/her scheduled practice experience for more than 8 hours, the student should again contact his/her pharmacist preceptor by phone on the second day of illness and also contact the Director of IPPE to determine if there is sufficient time and ability to make up the hours prior to the end of the scheduled experience.
<table>
<thead>
<tr>
<th>University Policies</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Attendance Statement</strong></td>
</tr>
<tr>
<td><strong>Americans with Disabilities Act for Students with Special Needs</strong></td>
</tr>
<tr>
<td><strong>Academic Honesty Statement</strong></td>
</tr>
<tr>
<td><strong>Instructional Continuity Plan</strong></td>
</tr>
</tbody>
</table>
PHRM 560: Specialty Care Topics
Spring 2019

Credits: 2
Meeting Times and Room: Monday and Wednesdays 2-2:50, AG Hill 300

Course Faculty:

<table>
<thead>
<tr>
<th>Name</th>
<th>Title</th>
<th>Contact Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Julia Muzzy Williamson</td>
<td>PharmD, CNSC, BCPPS</td>
<td>Sudro 118U, Phone: 231-5701, Email: <a href="mailto:julia.muzzy@ndsu.edu">julia.muzzy@ndsu.edu</a>, Office Hours: By appointment</td>
</tr>
<tr>
<td>Don Miller</td>
<td>PharmD</td>
<td>Sudro 118R, Phone: 231-7941, Email: <a href="mailto:donald.r.miller@ndsu.edu">donald.r.miller@ndsu.edu</a>, Office hours: By appointment</td>
</tr>
<tr>
<td>Kristine Steffen, PhD</td>
<td>PharmD</td>
<td>Sudro 6B1, Office: 231-5177, Email: <a href="mailto:user.19629@ndsu.edu">user.19629@ndsu.edu</a>, Office hours: By appointment</td>
</tr>
<tr>
<td>Rebecca Brynjulson</td>
<td>PharmD, BCACP, BCGP</td>
<td>Sudro 20B, Phone: 231-7477, Email: <a href="mailto:rebecca.brynjulson@ndsu.edu">rebecca.brynjulson@ndsu.edu</a>, Office hours: By appointment</td>
</tr>
<tr>
<td>Lisa Richter</td>
<td>PharmD, BCPS, BCCCP</td>
<td>Sudro 20A, Phone: 231-5178, Email: <a href="mailto:lisa.richter.1@ndsu.edu">lisa.richter.1@ndsu.edu</a>, Office Hours: By Appointment</td>
</tr>
<tr>
<td>Michael Kelsch</td>
<td>PharmD, BCPS</td>
<td>Sudro 118N, Phone: 231-6528, Email: <a href="mailto:michael.kelsch@ndsu.edu">michael.kelsch@ndsu.edu</a>, Office hours: By appointment</td>
</tr>
</tbody>
</table>

General Course Information

Bulletin Description: This course will provide knowledge of specialty topics encountered in pharmacy practice

Pre-requisites: PHRM 537 and PHRM 538, each with a ‘C’ grade or better


Instructional Methods:

☒ Audience Response Technology  ☒ Case-Based Learning  ☐ Direct patient care (IPPE*)
☒ Discussion - Large Group    ☐ Discussion – Small Group  ☒ Experiential (IPPE or APPE)
☒ Face-to-Face Lecture  ☒ Interprofessional Activities  ☒ Pre-Recorded Videos  ☒ Self-Directed Learning  ☒ Simulation (IPPE*)  ☐ Simulation (Non-IPPE)  ☐ Team-Based Learning  ☒ Tegrity  ☐ Other:

Program-Level Ability-Based Outcomes and Course Objectives

PharmD Ability Based Outcomes:

Domain 1. Foundational Knowledge
1.1 Integrate knowledge from foundational sciences to explain how specific drugs or drug classes work and evaluate their potential value in individuals and populations.
1.2 Apply knowledge in foundational sciences to solve therapeutic problems and advance patient centered care.

Domain 2. Essentials for Practice and Care
2.1.1 Collect and interpret subjective and objective evidence related to patient, medications, allergies/adverse reactions, and disease.
2.1.2 Prioritize patient health-related needs.
2.1.3 Formulate assessments and implement evidence based care plans and recommendations.
2.1.4 Monitor the patient and adjust care plan as needed.

Domain 3. Approach to Practice and Care
3.1.1 Identify and define the primary problem.
3.1.2 Define goals and alternative goals.
3.1.5 Implement the most viable solution, including monitoring parameters, to measure intended and unintended consequences.
3.4.2 Incorporate the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable.
3.5.3 Assess a patient’s health literacy and modify communication strategies to meet the patient’s needs.

Course Objectives:
1. Identify type of anemia, analyzing laboratory values and patient specific factors.
3. Compare and contrast palliative care verses hospice care, and who is an appropriate candidate for these services.
4. Discuss the pharmacist’s role in the delivery of Home Health and Surgical Care.
5. Identify a patient with Sepsis and Septic Shock using the SEPSIS-3 definition and diagnostic criteria.
6. Recognize improvement or worsening of oxygenation/ventilation while patient is using invasive ventilation.
7. Classify ARDS according to disease severity & identify risk factors for development of ARDS.
8. Recommend appropriate pharmacotherapy for a critically ill patient.
9. Describe how carbohydrates, fats and protein are utilized.
10. Explain the differences among specific fats and which fats are most beneficial.
11. Define the difference between starvation and stress metabolism.
12. Given a patient’s clinical description, identify a candidate for specialized nutrition support and whether tube feedings or intravenous nutrition is indicated.
13. Differentiate specific enteral products and determine which patients would benefit from each type of product.
14. Determine a specific nutritional prescription when specialized nutrition is indicated for the patient.
15. Develop a pharmaceutical care plan for a patient receiving specialized nutritional support.
16. Given a specific patient the student will know appropriate laboratory monitoring to follow.
17. Given a specific case study the student will be able to determine appropriate nutritional support and develop a monitoring plan for the patient.
18. Demonstrate safe, effective and appropriate opioid use in the team based management of chronic pain through simulated patient care scenarios.

Evaluation

Assessment Methods:
☒ Assignment ☐ Exam ☐ Oral Presentation ☐ Participation ☐ Peer Assessment ☐ Paper
☐ Practical (Lab) ☐ Research/Project ☐ Reflection ☜ Quiz ☐ Self-Assessment
☒ Other: Simulation

Instruction
- This course contains both in class “face-to-face” instruction, online simulation, and pre-recorded materials. In order to ensure a student is successful in this course, all components must be completed.
- Pre-recorded anemia lectures will be available at the beginning of the semester. Students are encouraged to utilize times where face-to-face instruction is not occurring to view this work.

Grading:
- Questions regarding your grade on a specific exam/assignment must be addressed to the course instructor within one week of the grade posted on Blackboard.
- The course instructors do not round grades, or offer opportunities for additional bonus points/extra credit at the end of the semester.
- Group Case (Assignment)- There will be a total of 3 group assignments/case based activities that will be completed in groups (you may choose your own group, however groups must be at least 2 participants and no more than 3 students per group.) Each group should turn in only 1 copy of the assignment at the beginning of class on the due date. The purpose of the assignments is to promote discussion of concepts and materials between class members in order to further learning and promote understanding of content. Therefore, it is expected that each group member will contribute to all portions of the case. Cases will be posted 1-2 weeks prior to the deadline.
<table>
<thead>
<tr>
<th>Assessment</th>
<th>Points</th>
<th>Grade</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cases (3 x 20 pts ea.)</td>
<td>60</td>
<td>A</td>
<td>180 (90%)</td>
</tr>
<tr>
<td>Exams 1</td>
<td>60</td>
<td>B</td>
<td>160 (80%)</td>
</tr>
<tr>
<td>Exam 2</td>
<td>70</td>
<td>C</td>
<td>140 (70%)</td>
</tr>
<tr>
<td>Simulation (1 x 10 pts)</td>
<td>10</td>
<td>D</td>
<td>120 (60%)</td>
</tr>
</tbody>
</table>

**Total Points 200**

**Final Grade:**  
*Note: Students must achieve a minimum grade of C or better to pass this course.*

---

### University Policies

**Attendance Statement**

According to [NDSU Policy 333](https://www.ndsu.edu/fileadmin/policy/333.pdf), attendance in classes is expected. Veterans and student service members with special circumstances or who are activated are encouraged to notify the instructor as soon as possible and are encouraged to provide Activation Orders.

**Americans with Disabilities Act for Students with Special Needs**

Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor and contact the Disability Services Office ([www.ndsu.edu/disabilityservices](http://www.ndsu.edu/disabilityservices)) as soon as possible.

**Academic Honesty Statement**

The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at [www.ndsu.edu/academichonesty](http://www.ndsu.edu/academichonesty).

**Instructional Continuity Plan**

See College of Health Professions Policy 3.10 for more information. ([https://www.ndsu.edu/fileadmin/healthprofessions/documents/College_Policy_Manual_4.29.15.pdf](https://www.ndsu.edu/fileadmin/healthprofessions/documents/College_Policy_Manual_4.29.15.pdf)) In the event classroom time is interrupted, faculty will use Blackboard to communicate with students. Students with a medical condition should contact the course instructor regarding accommodations.
<table>
<thead>
<tr>
<th>Date/Week</th>
<th>Topic / Exam</th>
<th>Activities</th>
<th>Instructor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Week 1 (1/7, 1/9)</td>
<td>Critical Care</td>
<td></td>
<td>Richter</td>
</tr>
<tr>
<td>Week 2 (1/14, 1/16)</td>
<td>Critical Care</td>
<td></td>
<td>Richter</td>
</tr>
<tr>
<td>Week 3 (1/23) *1/21=Holiday, no face to face class</td>
<td>Critical Care (Richter)</td>
<td></td>
<td>Richter</td>
</tr>
<tr>
<td>Week 4 (1/28, 1/30)</td>
<td>Critical Care</td>
<td>Case #1 Due 1/30</td>
<td>Richter</td>
</tr>
<tr>
<td>Week 5 (2/4, 2/6)</td>
<td>Obesity</td>
<td></td>
<td>Steffen</td>
</tr>
<tr>
<td>Week 6 (2/13) *2/11=PCOA, no face to face class</td>
<td>Palliative Care</td>
<td></td>
<td>Kelsch</td>
</tr>
<tr>
<td>Week 7 (2/20) *2/18=Holiday, no face to face class</td>
<td>Palliative Care</td>
<td></td>
<td>Kelsch</td>
</tr>
<tr>
<td>Week 8 (2/26, 2/28) *2/28 no Face to face lecture</td>
<td>2/26 Psoriasis (Miller)</td>
<td>^1Pathways to Safer Opioid Use (simulation) (Brynjulson)</td>
<td>Miller</td>
</tr>
<tr>
<td>Week 9 (3/4, 3/7) *3/7 no face to face class</td>
<td>3/4 Exam #1 (Week 1-8 content)</td>
<td>^2Pre-recorded Anemia Lectures (Brynjulson)</td>
<td></td>
</tr>
<tr>
<td>Week 10</td>
<td>Spring Break – No class</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Week 11 (3/18, 3/19)</td>
<td>Foundational Nutrition</td>
<td></td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 12 (3/25, 3/27)</td>
<td>Parenteral Nutrition</td>
<td></td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 13 (4/1, 4/4)</td>
<td>Parenteral Nutrition</td>
<td></td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 14 (4/10) *4/8 UND simulation, no face to face class</td>
<td>Enteral Nutrition</td>
<td>Case #2 Due 4/10</td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 15 (4/17) *4/15 UND Simulation, no face to face class</td>
<td>Pediatric Nutrition Applications</td>
<td>^2Pre-recorded Anemia Lectures (Brynjulson)</td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 16 (4/24) *4/22=Holiday weekend, no face to face class</td>
<td>Pediatric Nutrition Applications</td>
<td>Case #3 Due 4/24</td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 17 (4/30, 5/1)</td>
<td>Nutrition Support in Specific Disease States</td>
<td></td>
<td>Muzzy</td>
</tr>
<tr>
<td>Week 18</td>
<td>Exam #2</td>
<td>(Week 11-17 content + Anemia)</td>
<td>Muzzy</td>
</tr>
</tbody>
</table>

^1Pathways to Safer Opioid Use is an online interactive simulated experience promoting safe, effective and appropriate opioid use in the management of chronic pain. Students will receive 3 hours of IPPE credit for completion of this course activity. This online simulation requirements and directions will be available in Blackboard for completion from February 28th, 2019 through April 15, 2019. Scores will not be entered into blackboard until after April 8th, 2019. This assignment may be completed any time during the simulation time frame.

^2Online material may viewed at any point in time, however some content will be incorporated into Case #3. Multiple reminders are placed on the schedule to help encourage students to review the material prior to its application.

The syllabus may be modified at any time at the discretion of the faculty. Students will be notified of any changes made.
Pathways to Safer Opioid Use
IPPE Simulated Activity (PHRM 560)

This simulated experience is expected to take approximately 3 hours. Please print and complete page two and three of this document while completing the simulation. The simulation can be done all at one time, or in multiple sittings. At the completion of the simulation, please use pages 2 and to answer assignment questions in Blackboard to receive IPPE credit for this simulation. The questions in Blackboard should be completed by April 15, 2019 at 11:59 p.m. in order to receive IPPE and course credit. Please note, no scores will be entered into Blackboard until after April 8, 2019. Thank you!

Please note, simulated activity description and objectives below are taken directly from the website: http://health.gov/hcq/training-pathways.asp

“This web-based training allows you to assume the role of 4 playable characters who make decisions – controlled by you – about preventing opioid-related adverse drug events (ADEs). The characters represent the following roles: primary care physician, nurse, pharmacist, and patient.

In this behavior-based training using interactive video, you will learn how to:

- Apply health literacy strategies to help patients understand and act on information to prevent opioid-related ADEs
- Identify individual risk factors, opioid medications, and interactions that place individuals with chronic pain at increased risk for opioid-related ADEs
- Recognize the importance of a multidisciplinary, team-based approach to treating patients with chronic pain
- Demonstrate the ability to combine the principles of the Health Literate Care Model and the biopsychosocial model of chronic pain management through case study examples”

Prior to starting the simulation, please review the following information:

http://health.gov/communication/interactiveHLCM/index.html

http://www.futuremedicine.com/doi/abs/10.2217/ebo.13.469 *Note, you only need to read the abstract, not the article. The abstract provides a good definition of the biopsychosocial model of chronic pain management. Gatchel is an authority on this topic. You will see how this approach is applied in the simulation.

**Please note, you will use the next two pages to record answers that you will then enter into Blackboard**
Dr. Katrina Lee, Pharmacist

What is one thing you learned about verbal de-escalation of an agitated patient?

What is one red flag that may indicate an illegitimate opioid prescription?

Review Your Decisions as Dr. Katrina Lee. What were the outcome of your choices/decisions? Were they positive or negative? Please be honest; there is no change in your final score for indicating that your choice/decision had either a positive outcome or a negative outcome in the correct column. The program will explain ways for you to improve in future patient encounters if you click on the patient name/decision at the end of each character.

<table>
<thead>
<tr>
<th>Simulated Patient Name</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Mr. Anderson</td>
<td></td>
</tr>
<tr>
<td>Mrs. Young</td>
<td></td>
</tr>
<tr>
<td>Mr. Clausen</td>
<td></td>
</tr>
<tr>
<td>Mr. DeSantos</td>
<td></td>
</tr>
</tbody>
</table>

As a pharmacist, it is important to recognize and understand the perspective of other healthcare providers on the healthcare team. In some practice settings, clinical pharmacists work in pain management clinics and play a more active role in the patient interactions and decisions being made in the outpatient clinic setting. In the next two scenarios, you will gain additional knowledge and understanding from reviewing these interactions and interventions that occur in a pain management clinic.

Rhonda Clark, Nurse

Opioids are one of the three key drug classes identified in the National Action Plan for ADE Prevention (ADE Action Plan) as initial targets. Which are the other two drug classes?

Which of the following are health literacy strategies?

<table>
<thead>
<tr>
<th>Warm Greeting</th>
<th>Eye Contact</th>
<th>Graphics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Plain language, free of medical terminology</td>
<td>Speaking at a fast rate</td>
<td>Speaking at a slow rate</td>
</tr>
<tr>
<td>Limit content to key points for patients</td>
<td>Make sure that key points are repeated to patients</td>
<td>Limit time communicating with patients to less than 30 seconds</td>
</tr>
<tr>
<td>Use the teach back method</td>
<td>Encourage patient participation</td>
<td>Do not encourage patients to ask questions</td>
</tr>
</tbody>
</table>

Review your decisions. What were the outcome of your choices/decisions? Were they positive or negative? Please be honest; there is no change in your final score for indicating that your choice/decision had either a positive outcome or a negative outcome in the correct column. The program will explain ways for you to improve in future patient encounters if you click on the patient name/decision at the end of each character.

<table>
<thead>
<tr>
<th>Simulated Patient Name</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Mrs. Jackson</td>
<td></td>
</tr>
<tr>
<td>Delores</td>
<td></td>
</tr>
<tr>
<td>George</td>
<td></td>
</tr>
<tr>
<td>Mr. Watkins</td>
<td></td>
</tr>
</tbody>
</table>
Dr. Martin Bright, Primary Care Physician

What is shared decision making?

Review your decisions. What were the outcome of your choices/decisions? Were they positive or negative? Please be honest; there is no change in your final score for indicating that your choice/decision had either a positive outcome or a negative outcome in the correct column. The program will explain ways for you to improve in future patient encounters if you click on the patient name/decision at the end of each character.

<table>
<thead>
<tr>
<th>Simulated Patient Name</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Janet Martinez</td>
<td></td>
</tr>
<tr>
<td>James Parker</td>
<td></td>
</tr>
<tr>
<td>Dr. Williamson</td>
<td></td>
</tr>
<tr>
<td>Kara Tomlin</td>
<td></td>
</tr>
</tbody>
</table>

In the final scenario, you will gain additional knowledge and understanding from reviewing the patient’s perspective while interacting with the health care team.

James Parker, Simulated Patient

After the Brown Bag Medication Review, click the link for the Safe Disposal of Unused Medicines from the FDA. This is a great resource to reference when answering patient questions.

Review your decisions. What were the outcome of your choices/decisions? Were they positive or negative? Please be honest; there is no change in your final score for indicating that your choice/decision had either a positive outcome or a negative outcome in the correct column. The program will explain ways for you to improve in future patient encounters if you click on the patient name/decision at the end of each character.

<table>
<thead>
<tr>
<th>Simulated Provider Name</th>
<th>Outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Positive</td>
</tr>
<tr>
<td>Dr. Jennings</td>
<td></td>
</tr>
<tr>
<td>Pharmacist</td>
<td></td>
</tr>
<tr>
<td>Nurse</td>
<td></td>
</tr>
<tr>
<td>Nurse Practitioner</td>
<td></td>
</tr>
<tr>
<td>Dr. Bright &amp; Teach Back</td>
<td></td>
</tr>
</tbody>
</table>

Return to the main menu. Visit the Resource Library. You may choose to bookmark/save this link for reference for your rotations next year. Thank you for participating in this simulation.
APPENDIX 11J

North Dakota State University
College of Health Professions
PHRM 551L: Pharmacy Practice Laboratory III
Fall 2019

Bulletin description
PHRM 551L: Pharmacy Practice Laboratory III
This course focuses on pharmaceutical care, pharmacy calculations, prescription consultation,
compounding nonsterile and sterile products, and disease state management. Pre-requisite: PHRM 452L

Course schedule

<table>
<thead>
<tr>
<th>Monday</th>
<th>Course location</th>
</tr>
</thead>
<tbody>
<tr>
<td>11:00am - 11:50am</td>
<td>Sudro Hall 26</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Tuesday</th>
<th>Wednesday</th>
<th>Thursday</th>
<th>Friday</th>
</tr>
</thead>
<tbody>
<tr>
<td>8:00am – 9:50am</td>
<td>9:00am – 10:50am</td>
<td>8:00am – 9:50am</td>
<td>9:00am – 10:50am</td>
</tr>
<tr>
<td>10:00am – 11:50am</td>
<td>10:00am – 11:50am</td>
<td>10:00am – 11:50am</td>
<td>10:00am – 11:50am</td>
</tr>
</tbody>
</table>

| Sudro Hall 108 | Sudro Hall 110 |

Course credit
2 credits

Faculty
Amy Drummond, PharmD
Sudro Hall 118C
Phone: 231-5750
Amy.Drummond@ndsu.edu

Heidi Eukel, PharmD
Sudro Hall 118G
Phone: 231-7602
Heidi.Eukel@ndsu.edu

Jeanne Frenzel, PharmD, PhD
Sudro Hall 118F
Phone: 231-8546
Jeanne.Frenzel@ndsu.edu

Elizabeth Skoy, PharmD
Sudro Hall 118E
Phone: 231-5669
Elizabeth.Skoy@ndsu.edu

DeeAnna Hanson, PharmD
Lake Region Healthcare
Phone: 231-8546
DeeAnna.Hanson@ndsu.edu

Macey Hanel, PharmD
Lake Region Healthcare
Phone: 231-5669
Macey.Hanel@ndsu.edu

Facility office hours
Thursday 1:00pm to 2:00pm or by appointment

Instructional methods
Face-to-face lecture, skill demonstration, non-IPPE simulation, IPPE simulation, large group discussion,
small group discussion, interprofessional activities, pre-recorded videos, Blackboard

Email
NDSU email addresses are used to communicate with students. Please check your NDSU email accounts
often.
Blackboard - https://bb.ndsu.nodak.edu
The syllabus, assignments, supplemental information, and instructional videos can be found on the course Blackboard site. Instructional videos may be large in size and may need to be viewed using a computer on campus.

Student learning objectives
Patient Consultation
- Develop a patient specific consultation using OBRA '90 or the Indian Health Services Model to instruct patients on the use of prescription medications (Evaluating; 3.2.2, 3.2.4, 3.2.4 Education, 2.2.4 Medication use systems management)
- Demonstrate effective verbal and nonverbal communication (Applying; 3.6.4, 3.6.6 Communication)

Nonsterile compounding
- Evaluate patient information to ensure appropriateness of compound to be dispensed (Evaluating; 1.2 Foundational knowledge, 2.2.6 Medication use systems management)
- Perform accurate calculations (Evaluating; 1.2 Foundational knowledge, 2.2.6 Medication use systems management)
- Appropriately select and utilize equipment and ingredients for nonsterile compounding (Applying; 1.2, 1.3 Foundational knowledge, 2.2.4, 2.2.6 Medication use systems management)
- Label dispensed compound with accurate information and appropriate auxiliary labels (Applying; 2.2.1, 2.2.4, 2.2.6 Medication use systems management, 4.4.3 Professionalism)
- Accurately prepare, document, and dispense a compounded preparation following USP 795 and good practice guidelines (Creating; 1.2, 1.3 Foundational knowledge, 2.2.3, 2.2.4, 2.2.6 Medication use systems management, 4.4.3 Professionalism)

Sterile compounding
- Demonstrate understanding of the requirements of United States Pharmacopeia Chapter <797> (Understanding; 2.2.4 Medication use systems management)
- Demonstrate understanding of the legal requirements for a medication order (Understanding; 2.2.4 Medication use systems management)
- Evaluate patient information to ensure appropriateness of compound to be dispensed (Evaluating; 1.2 Foundational knowledge, 2.2.6 Medication use systems management)
- Evaluate prescriptions for legal requirements (Creating; 2.2.4 Medication use systems management, 4.4.3 Professionalism)
- Perform accurate calculations (Evaluating; 1.2 Foundational knowledge, 2.2.6 Medication use systems management)
- Select appropriate equipment for compounding (Evaluating; 1.2 Foundational knowledge, 2.2.4, 2.2.6 Medication use systems management)
- Prepare a compounded sterile preparation using aseptic technique (Applying; 2.2.4, 2.2.6 Medication use systems management)
- Label dispensed compound with accurate information and appropriate auxiliary labels (Applying; 2.2.1, 2.2.4, 2.2.6 Medication use systems management, 4.4.3 Professionalism)
Human patient simulator
- Assess a patient in a code situation and recommend a treatment plan (Evaluating; 2.1.1, 2.1.2, 2.1.4 Patient centered care, 2.2.4, 2.2.6 Medication use systems management, 3.2.4, 3.2.5 Education, 3.6.1 Communication, 4.4.1 Professionalism)

Professionalism
- Demonstrate professionalism through communication, actions, and appearance (Understanding; 4.4.1, 4.4.2, 4.4.3, 4.4.4 Professionalism)

Errors & omissions
- Evaluate prescriptions for legal requirements and appropriateness based on patient information and dispensed medication (Creating; 2.2.4, 2.2.6 Medication use systems management, 4.4.3 Professionalism)

Patient care project
- Evaluate patient information to ensure appropriateness of medication regimen (Evaluating; 2.1.1, 2.1.2, 2.1.4, 2.1.5 Patient-centered care, 3.1.5 Problem solving)
- Document patient care activities clearly, concisely, and accurately (Creating; 3.6.4, Communication)

Physical assessment
- Demonstrate the ability to accurately perform the physical assessment of blood pressure (Evaluating; 2.1.1, 2.1.3 Patient-centered care, 2.3.1, 2.3.2 Health and wellness)
- Interpret physical assessment findings and create an appropriate plan of care (Evaluating; 2.1.1, 2.1.3 Patient-centered care, 2.3.1, 2.3.2 Health and wellness)


Lab decorum and dress code
- This is a PROFESSIONAL practice course.

- Attend, arrive on time, and remain until completion of all activities. Be prepared to work. Complete preparatory assignments and arrive with all necessary materials.

- Take this work seriously. Your ability to care for patients in the future will depend on the work habits, communication skills, and problem solving skills you develop in the Concept Pharmacy.

- Participate actively in all learning experiences. Optimal learning occurs only when fully engaged in the process. The responsibility of the faculty is to provide you with the opportunity to learn, but it is your job to do the work of learning.

- Demonstrate personal integrity. Do your own work. Maintain privacy of sensitive and confidential information. Be responsible and accountable for your own behaviors.

- Maintain a safe work environment. Follow all instructions and guidelines for the safe handling of equipment and materials.
Clean up after all activities. If you take it out, put it away. If you spill it, clean it up. If you break it, notify faculty.

Maintain a professional appearance and demeanor. Dress professionally and maintain appropriate personal grooming standards. Students are expected to dress in a professional manner while participating in Concept Pharmacy activities.

Dress code
Students are required to adhere to the “Dress Code for Thrifty White Concept Pharmacy, Experiential Education, and Outreach Activities.” The dress code is available via Blackboard.

Professional misconduct
Deviations from professional conduct and professional dress will result in loss of professional points. These decisions will be made by faculty. If a student loses 3 or more professional points they will be asked to meet with course faculty.

Loss of a professional point may occur by:
✓ Tardiness >5 minutes
✓ Unprofessional verbal or written communication
✓ Use of cell phone during lab
✓ Missing lab coat, iPad, pencil, calculator, or garb
✓ Clothing in need of repair or washing
✓ Inappropriate dress or footwear, socks or hosiery
✓ Use of iPads or cell phones to capture images, video, or audio of a peer, binder content, grading rubrics, assessments, and electronic health information is prohibited, unless approved by faculty
✓ Chewing gum
✓ Body odor, from any cause
✓ Nail polish or artificial nails worn during compounding sterile preparation labs
✓ Checking email or social media websites during class

Cell phones
All cell phones must be turned off during lab. If a student must be contacted during lab, in case of emergency, please use the Thrifty White Concept Pharmacy (701) 231-8502 phone line.

Attendance
According to NDSU Policy 333, attendance in class is expected and important. Please see the NDSU policy manual for instructor and student responsibilities.

Late or missed assignments or assessments due to a non-emergency will result in a zero score and cannot be made up.

If an illness occurs or an emergency arises, arrangements to attend a different lab section can be made. Re-scheduled assignments or assessments must be completed within 7 days of the absence. Failure to do this will result in a zero score.
Late or missed written practical exams or skill performance practical exams due to a non-emergency must be made up at the discretion of faculty and final points achieved will be reduced by 30%.

Late or missed written practical exams or skill performance practical exams due to an emergency must be made up at the discretion of faculty. Failure to do this will result in a zero score.

Substitution
If a non-emergency situation arises, students may arrange to exchange lab days with another student.
- Excused absences include: personal illness, family illness or death, University sponsored event, state or national convention or meeting

Substitution process
- A dropbox and substitution forms are located outside of Sudro 118G
- A substitution form must be filled out and deposited in the dropbox no later than one week prior to the anticipated change in time or day
- YOU must find another classmate willing to switch sessions with you
- Conflicting work schedule is not a valid excuse
- A confirmation e-mail will be sent to each student with the acceptance or denial of the request

Binders
Binders will be provided to each student as a repository for course content. Faculty will monitor, evaluate, and provide feedback on student work submitted via the binders. Students will not be allowed to stay after their scheduled lab section to complete assignments. Binders must remain in the Thrifty White Concept Pharmacy to ensure timely return of evaluated course content.

Required equipment
In addition to a lab coat, each student shall supply their own pencil, calculator, and iPad, as these items will not be available in the lab.

Safety
If you receive an accidental blood exposure, needle stick, or other injury, notify faculty immediately. All needle related injuries must be reported to the North Dakota State University Safety Office. If you have any known drug allergies to products used in lab, please notify faculty and accommodations will be made.
<table>
<thead>
<tr>
<th>Week</th>
<th>Lecture</th>
<th>Laboratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>09/02/2019</td>
<td>No lecture: Labor Day</td>
<td>Compounded sterile preparations (Frenzel)</td>
</tr>
<tr>
<td>09/09/2019</td>
<td>Compounded sterile preparations</td>
<td>Compounded sterile preparations (Frenzel)</td>
</tr>
<tr>
<td>09/16/2019</td>
<td>Compounded sterile preparations</td>
<td>Compounded sterile preparations (Frenzel)</td>
</tr>
<tr>
<td>09/23/2019</td>
<td>Compounded sterile preparations</td>
<td>Compounded sterile preparations (Frenzel)</td>
</tr>
<tr>
<td></td>
<td>Team based learning exercise</td>
<td></td>
</tr>
<tr>
<td>09/30/2019</td>
<td>Acute cardiac life support – Students Aberle-Kelley</td>
<td>Interprofessional activity – ACLS (Aberle-Kelley)¹ (Frenzel)</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td>OR</td>
</tr>
<tr>
<td></td>
<td>No lecture – Students Kelly-Wolfe</td>
<td>Blood pressure simulation (Kelly-Wolfe)² (Skoy)</td>
</tr>
<tr>
<td>10/07/2019</td>
<td>Nonsterile compounding</td>
<td>Nonsterile compounding (Skoy)</td>
</tr>
<tr>
<td>10/14/2019</td>
<td>No lecture</td>
<td>Patient care project (Drummond)</td>
</tr>
<tr>
<td>10/21/2019</td>
<td>Nonsterile compounding</td>
<td>Nonsterile compounding (Skoy)</td>
</tr>
<tr>
<td>10/28/2019</td>
<td>Difficult conversations</td>
<td>Dispensing and consultation (Eukel)</td>
</tr>
<tr>
<td></td>
<td>OR</td>
<td>Consultation assessment</td>
</tr>
<tr>
<td>11/04/2019</td>
<td>Difficult conversations</td>
<td>Difficult conversations (Eukel)</td>
</tr>
<tr>
<td>11/11/2019</td>
<td>No lecture: Veteran's Day</td>
<td>Patient care project (Drummond)</td>
</tr>
<tr>
<td>11/18/2019</td>
<td>Nonsterile compounding</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Team based learning exercise</td>
<td>No laboratories</td>
</tr>
<tr>
<td>11/25/2019</td>
<td>USP 795, 797, 800 update</td>
<td>No laboratories</td>
</tr>
<tr>
<td>12/02/2019</td>
<td>Medication errors</td>
<td>Medication errors (Eukel)</td>
</tr>
<tr>
<td>12/09/2019</td>
<td>Practical exams</td>
<td>Sterile practical exam/ Errors &amp; omissions exam/Consultation assessment</td>
</tr>
<tr>
<td></td>
<td>Nonsterile/Sterile</td>
<td></td>
</tr>
</tbody>
</table>

¹ 0.9 IPPE clock hours, students will participate in mock code with nursing students, simulation, interprofessional activities
² 1.7 IPPE clock hours, students will practice physical assessment techniques, simulation
³ 1.6 IPPE clock hours, students will practice communication with standardized patients, simulation

**Team based learning - Learning teams**

Learning teams and room assignments for team based learning application exercises will be announced via Blackboard prior to the first scheduled application exercise. Students must complete team based learning application exercises as a team. Division of a team based learning application exercise will result in a 5 point deduction from each student’s final score. Students will not be admitted into the testing room for any reason after the start of a team based learning application exercise.

**Team based learning application exercise – absence**

One make-up exercise will be offered during finals week for students who have missed a prior exercise. Students will have 50 minutes to complete the comprehensive exercise independently. The make-up exercise will be **Monday, December 9, 2019 10:00am to 10:50am, Sudro 110**.
**Patient care project**
Students will complete two activities for the patient care project. Students will identify, retrieve, and interpret pertinent data to be used to assess a patient’s health status and generate a SOAP note/progress note to effectively communicate their findings to other healthcare providers. Medical references will be utilized to help resolve medication related problems.

**Evaluation of student performance**

<table>
<thead>
<tr>
<th>Weekly skill development</th>
<th>Points</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nonsterile compounding, week 1</td>
<td>10</td>
</tr>
<tr>
<td>Nonsterile compounding, week 2</td>
<td>10</td>
</tr>
<tr>
<td>Compounding sterile preparations, week 1</td>
<td>10</td>
</tr>
<tr>
<td>Compounding sterile preparations, week 2</td>
<td>10</td>
</tr>
<tr>
<td>Compounding sterile preparations, week 3</td>
<td>10</td>
</tr>
<tr>
<td>Compounding sterile preparations, week 4</td>
<td>10</td>
</tr>
<tr>
<td>Difficult conversations – simulated patients</td>
<td>10</td>
</tr>
<tr>
<td>Interprofessional activity or physical assessment</td>
<td>10</td>
</tr>
<tr>
<td>Patient care project</td>
<td>10</td>
</tr>
<tr>
<td>Patient care project</td>
<td>10</td>
</tr>
<tr>
<td>Professional points</td>
<td>10</td>
</tr>
</tbody>
</table>

**Worksheets and study guides**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Compounding sterile preparations, hazardous study guide</td>
<td>5</td>
</tr>
<tr>
<td>Nonsterile compounding, capsules worksheet</td>
<td>5</td>
</tr>
<tr>
<td>Nonsterile compounding, suppositories worksheet</td>
<td>5</td>
</tr>
</tbody>
</table>

**Assessments**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Consultation assessment</td>
<td>10</td>
</tr>
<tr>
<td>Consultation assessment</td>
<td>10</td>
</tr>
<tr>
<td>Team based learning exercise, nonsterile compounding</td>
<td>20</td>
</tr>
<tr>
<td>Team based learning exercise, compounding sterile preparations</td>
<td>20</td>
</tr>
<tr>
<td>Errors and omissions assessment</td>
<td>10</td>
</tr>
<tr>
<td>Practical exam</td>
<td>100</td>
</tr>
</tbody>
</table>

Final grades are based upon total percentage of points achieved and will not be rounded up. Remediation is not available for this course. Students must achieve a minimum cumulative grade of C or better to pass this course.

**Final course grade**

<p>| | |</p>
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>90% to 100%</td>
<td>265.5 to 295.0 points</td>
</tr>
<tr>
<td>80% to 89.9%</td>
<td>236.0 to 265.4 points</td>
</tr>
<tr>
<td>70% to 79.9%</td>
<td>206.5 to 235.9 points</td>
</tr>
<tr>
<td>60% to 69.9%</td>
<td>177.0 to 206.4 points</td>
</tr>
<tr>
<td>&lt; 60 %</td>
<td>0 to 176.9 points</td>
</tr>
</tbody>
</table>
Grades
If you have questions regarding a grade, you must address your concern with faculty within 3 academic days of receiving the grade. However, if you request re-grading, we will re-grade the entire activity or assessment. Additional points may be gained or lost.

Photography/Video
By participating in this course you consent to North Dakota State University taking photos or video of you and further authorize publication for any purpose.

Americans with disabilities act for students with special needs
Any students with disabilities or other special needs, who need special accommodations in this course, are invited to share these concerns or requests with the instructor and contact the Disability Services Office (www.ndsu.edu/disabilityservices) as soon as possible.

Academic honesty
The academic community is operated on the basis of honesty, integrity, and fair play. NDSU Policy 335: Code of Academic Responsibility and Conduct applies to cases in which cheating, plagiarism, or other academic misconduct have occurred in an instructional context. Students found guilty of academic misconduct are subject to penalties, up to and possibly including suspension and/or expulsion. Student academic misconduct records are maintained by the Office of Registration and Records. Informational resources about academic honesty for students and instructional staff members can be found at www.ndsu.edu/academichonesty.

Communication regarding quizzes, exams, or practical exams between students or lab sections is unacceptable and considered a violation of the academic honesty policy. You are responsible for reporting violations to faculty.

Instructional continuity plan
See College of Health Professions Policy 3.10 for more information.
In the event classroom time is interrupted, faculty will use Blackboard to communicate with students. Students with a medical condition should contact the course instructor regarding accommodations.

Syllabus subject to change
The syllabus is subject to change at the discretion of the faculty. Students will be notified by the instructors of any changes in course requirements or policies.

Logins & passwords
- To access a computer desktop of a computer located within the Thrifty White Concept Pharmacy
  Computer only login: cpharm
  Password: Conc3ptRx

- To log in to the prescription filling software - TWRx
  Login: store1
  Password: pswd2

- To access online resources: MicroMedex, Facts and Comparisons, Access Pharmacy, Lexi-Comp
  https://www.ndsu.edu/pharmacy/pharmd/resources/
UND/NDSU PRE-SIMULATION AND SIMULATION DAY: APRIL 8 AND APRIL 15, 2019

Please find attached the pdf document with your assigned simulation groups (2-3 PharmD and 2-3 MD students) group 1-29. This document has also your time and room of the actual simulation on 4/15. As you were informed before for the pre-simulation day on 4/8 we will provide buses to get you to the UND campus in Bismarck as we have scheduled activities from 1:00 pm-4:30 pm that day for all of you. On 4/15 in the day of actual simulation you will be responsible for your own transportation to the UND campus based on your scheduled time of simulation. Please ensure you commute together on 4/15 as the parking spaces in front of the College of Medicine are limited and ensure to arrive on the campus at least 30 minutes prior to your simulation time. We can’t postpone the time or wait for your late arrival (I attached the sheet with the information about the simulation day 4/15 that was shared with you in February).

Please see below the schedule/itinerary for Pre-simulation day on 4/8/2019. For this day please wear professional clothing and your name tag. Please bring with you your iPad so you can test WIFI connection for access to Lexicomp or Micromedex for the day of the actual simulation. We are not providing lunch or any refreshments during the pre- or simulation day so please plan accordingly.

For the pre-simulation day on 4/8 please ensure to bring your lunch with you for the bus ride. You can also bring additional snacks for the rest of the day. In the school there are vending machines so you can also if needed to purchase drink there as well as there is a small kiosk on the first floor where the auditorium and simulation suites are so you can also purchase some items there. However, there will be lost of students and traffic and therefore lines can be extensive. We do not have built much time for breaks during the 4/8 visit, so please plan accordingly.

NDSU/UND INTERPROFESSIONAL PRE-SIMULATION DAY on April 8, 2019

Dress code: Casual clothing (no sweat pants, scrubs) and NDSU name tag

To get an idea about the teamwork dynamics and communication and recording during simulation, you can view following video prior to Monday 4/8: https://youtu.be/jhQdQV6QFnc

Itinerary:
11:00-11:25 AM Busses Boarding
11:30 AM Departure from the NDSU campus (eat lunch on the bus*)
1:00-2:30 PM Opioid Use and Abuse/Pain Management Panel Discussion (Room E101)
2:30 PM-3:30 PM Face-to-Face Interaction Session (Room E101)
3:30 to 4:30 PM Tour/Orientation to the building and simulation suites (Suite E105)
Departure: Departure from the UND campus

*NOTE: Vending machines with drinks available on the 1st floor of the building and small deli (but it would take an hours to get all 86 PharmD students through not even counting UND students)

Face-to-face Interactions between MD and PharmD Learners (60 min):
1. Welcome, introduction and orientation to structure of the 60-min 4/15 simulation
2. Exemplar interprofessional simulation video
3. Individual group activity/discussions:
   a. Group member brief introduction (name, where you are from, why you selected to be a pharmacists or physician, what are your future plans upon graduation)

UND/NDSU PRE-SIMULATION AND SIMULATION DAY INFORMATION FOR 2019 (DR. MARVANOVA)
b. Introduce to the other profession your educational/degree program:
   i. PharmD program (length, courses, rotations, postgraduate education/residency)
   ii. MD program (length, courses, rotation, postgraduate education/residency)

c. Discuss whether you have a personal (as a patient, caregiver) or professional (as a clinician) experience with emergency department/critical care setting? If yes, discuss the experience and role of physicians and pharmacists that you observed.

d. Discuss with the group what are roles and responsibilities of clinical pharmacist and physician in emergency department settings. (Record this information for your group as this will be collected in the end of session)

e. Discuss and prepare your plan how will you communicate with other during the simulation and select an individual who will serve as a recorder and group leader (as we will run simulation repeat, it would be good that during repeat different individuals fulfill this role).

Figure 1. Seating assignment for each simulation IP group
NDSU/UND INTERPROFESSIONAL SIMULATION DAY on April 15, 2019

1. **Location:** UND School of Medicine & Health Sciences; 1301 North Columbia Road Stop 9037, Grand Forks, ND 58202-9037

2. **Participants:** The activities will be done with the second-year medical students from UND (N=76) and P3 pharmacy students that are enrolled in PHRM 580 in Spring 2019 (N=86).

**APRIL 15, 2019 INTERPROFESSIONAL EDUCATION PART 2 - SIMULATION DAY**

This is the day when the actual interprofessional high-fidelity clinical simulation with medical students will take place. You will be participating in a 60-min simulation activity that will be completed in your pre-assigned simulation group (2-3 pharmacy and 2-3 medical learners).

**Transport:** On this day, you are responsible for your own transport to UND. *We strongly urge you to carpool and to arrive early (30-60 minutes prior your simulation time) as you will need extra time to either find a parking spot and/or to walk from the furthest edges of the parking lot.*

**Parking:** UND will make arrangements so you will be able to park in the designated student parking areas in the 3 lots adjacent to the medical school at no charge. You should not park in any specially signed areas, e.g. “A” zone parking, or administrative parking as then you are responsible for paying any parking tickets received.

**Length:** The simulation will last 60 minutes/group. The simulations for all groups will run from 1:00-5:00 PM. At UND, we have 6 available simulation rooms and we will run 6 identical simulations simultaneously. Every 40 minutes, we will start a new set of 6 identical simulations.

*Please note that the actual start and finish time for the individual group simulations will vary depending on your randomly assigned group.* The precise schedule with the time and your group members will be provided to you as soon as we finalize the schedule and randomize participants with UND. Based on your start time for the 60 min-simulation, please plan to **arrive at the UND campus 30-60 minutes prior to the simulation so you can find a parking slot and be in the Simulation Center on time as we are not able to postpone the simulation start to wait for your arrival.**

**Simulation structure:**
- Simulation 1: 15 min
- Bedside debrief: 10 min
- Simulation 2 (repeat): 10 min
- Large group debrief: 25 min

**Total time:** 60 min

**Statement of IPPE credit:** “After participation in this simulated activity the students will receive 60 minutes of IPPE credit”

**Dress:** Professional dress, white coat, and name tag

**Technology/Equipment:** You should bring with you pen, phone, iPad in order to be able to access electronic resources (e.g. Lexicomp, Micromedex) if needed during the simulation.
# INTERPROFESSIONAL TEAM DYNAMICS ASSESSMENT FOR HIGH-FIDELITY OPIOID SIMMULATION (P3 PHARMACY AND M2 MEDICAL LEARNERS)

**Completed by:**  
- O Pharmacy facilitator  
- O Medical facilitator

<table>
<thead>
<tr>
<th>LEARNING GOALS</th>
<th>LEARNING OUTCOMES</th>
<th>SCALE*</th>
<th>COMMENTS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>IPEC COMPETENCIES</strong></td>
<td><strong>LEARNING OUTCOMES</strong></td>
<td><strong>NEVER</strong></td>
<td><strong>FREQUENT</strong></td>
</tr>
</tbody>
</table>

### 1. Collaborate with members of the interprofessional team to efficiently and effectively deliver patient care. (M2; P3)

**IPEC competency: 1-3**

| | Pharmacy learners were attentive to information, perceptions, and feedback from medical learners  (ABO 3.4.1; ABO 3.4.3) | O | O | O | O |
| | Medical learners were attentive to information, perceptions, and feedback from pharmacy learners  (ABO 3.4.1; ABO 3.4.3) | O | O | O | O |
| | Team members openly and collaboratively discussed key issues and findings (ABO 3.4.3) | O | O | O | O |
| | Team members arrived collaboratively at the diagnosis (ABO 3.4.2; ABO 3.4.3) | O | Yes | O | No |
| | Pharmacy learners presented themselves professionally during interaction with other professions (ABO 4.4.1) | O | O | O | O |
| | Medical learners presented themselves professionally during interaction with other professions (ABO 4.4.1) | O | O | O | O |

### 2. Communicate effectively with the interprofessional healthcare team. (M2; P3)

**IPEC competency: 3**

| | Pharmacy learners verbally communicated opinion(s) and/or pertinent information to the rest of the team in a clear and concise manner (ABO 3.6.4) | O | O | O | O |
| | Medical learners verbally communicated opinion(s) and/or pertinent information to the rest of the team in a clear and concise manner (ABO 3.6.4) | O | O | O | O |
| | Pharmacy learners communicated with others in respectful manner (ABO 3.4.3) | O | O | O | O |
| | Medical learners communicated with others in respectful manner (ABO 3.4.3) | O | O | O | O |

### 3. Manage as a team a patient with an emergent health care need according to learners’ scopes of practice. (M2; P3)

**IPEC competency: 2**

| | Pharmacy learners provided support to the team in the scope of their practice (ABO 4.4.2) | O | O | O | O | O | Yes | O | No |
| | Medical learners provided support to the team in the scope of their practice (ABO 4.4.2) | O | O | O | O | O | Yes | O | No |

*SCALE:* **NONE:** failed to demonstrate the desired behavior; **OCCASIONALLY:** demonstrated behavior once a while; **FREQUENTLY:** demonstrated behavior most of the time; **ALWAYS:** always demonstrates the desired behavior
# APPENDIX 11L

## Program-Level Outcome Data for Interprofessional Team Readiness (Summative Data Only)

<table>
<thead>
<tr>
<th>Activity/Outcome Measure</th>
<th>Data Source</th>
<th>Outcome Data for Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>P1 YEAR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>IPPE 1 PHRM 355</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Institutional Practice-Preceptor Evaluation of Students; Average Score*(Overall % Average)</td>
<td>E*Value</td>
<td>4.0 (80.0)</td>
</tr>
<tr>
<td>Student establishes a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs. (ABO 3.4.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student incorporates the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable. (ABO 3.4.2)</td>
<td>E*Value</td>
<td>3.9 (78.0)</td>
</tr>
<tr>
<td>Student communicates in a manner that values team based decision making and shows respect for contributions from other areas of expertise. (ABO 3.4.3)</td>
<td>E*Value</td>
<td>4.0 (80.0)</td>
</tr>
<tr>
<td><strong>P2 YEAR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>CHP 400</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interprofessional Healthcare Practice; Overall % Average</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team-based Collaborative Care Sim Score</td>
<td>ExamSoft (activity specific rubric)</td>
<td>95.1</td>
</tr>
<tr>
<td>Summative Assessment Scores</td>
<td>ExamSoft</td>
<td>91.4</td>
</tr>
<tr>
<td>Course Final Grades</td>
<td>Blackboard</td>
<td>95.1</td>
</tr>
<tr>
<td>IPEC Student’s Self-Reported Competency Scores</td>
<td>IPEC Competency survey</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>IPPE 2 PHRM 455</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Practice- Preceptor Evaluation of Students; Average Score*(Overall % Average)</td>
<td>E*Value</td>
<td>4.4 (88.0)</td>
</tr>
<tr>
<td>Student establishes a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs. (ABO 3.4.1)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student incorporates the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable. (ABO 3.4.2)</td>
<td>E*Value</td>
<td>4.2 (84.0)</td>
</tr>
<tr>
<td>Student communicates in a manner that values team based decision making and shows respect for contributions from other areas of expertise. (ABO 3.4.3)</td>
<td>E*Value</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td>Activity/Outcome Measure</td>
<td>Data Source</td>
<td>Outcome Data for Academic Year</td>
</tr>
<tr>
<td>--------------------------------------------------------------------------------------------</td>
<td>-----------------------------------------------</td>
<td>-----------------------------------------------</td>
</tr>
<tr>
<td><strong>P3 YEAR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>UND/NDSU High-Fidelity Simulation (Co-curriculum); Overall % Average (pharmacy students only)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Team Dynamics Score (Simulation Run 1)</td>
<td>Qualtrics (activity specific rubric)</td>
<td>N/A</td>
</tr>
<tr>
<td>Team Dynamics Score (Simulation Run 2)</td>
<td>Qualtrics (activity specific rubric)</td>
<td>N/A</td>
</tr>
<tr>
<td><strong>P4 YEAR</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PHRM 581-589 APPE Preceptor Evaluation of Students; Average Score* (Overall % Average)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student establishes a climate of accountability, mutual respect, and shared values with members of the interprofessional team to meet patient and population care needs. (ABO 3.4.1)</td>
<td>E*Value</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td>Student incorporates the knowledge, skills, and abilities of each member of the interprofessional team to provide care that is safe, timely, efficient, effective, and equitable. (ABO 3.4.2)</td>
<td>E*Value</td>
<td>4.1 (82.0)</td>
</tr>
<tr>
<td>Student communicates in a manner that values team based decision making and shows respect for contributions from other areas of expertise. (ABO 3.4.3)</td>
<td>E*Value</td>
<td>4.2 (84.0)</td>
</tr>
<tr>
<td>AACP Survey Response; % Strongly Agree + Agree for NDSU (% Strongly Agree + Agree National)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student Q3. The learning experience with other professions students helped me gain a better understanding of how to be part of a multidisciplinary team to improve patient outcomes. (ABO 3.4)</td>
<td>AACP survey</td>
<td>94.6 (91.0)</td>
</tr>
<tr>
<td>Student 15. The PharmD program prepared me to engage as a member of an interprofessional healthcare team. (ABO 3.4)</td>
<td>AACP survey</td>
<td>99.2 (96.1)</td>
</tr>
<tr>
<td>Student Q38. My pharmacy practice experience allowed me to collaborate with other healthcare professionals. (ABO 3.4)</td>
<td>AACP survey</td>
<td>100.0 (98.0)</td>
</tr>
<tr>
<td>Preceptor Q30. The PharmD program prepares students to engage as a member of an interprofessional healthcare team. (ABO 3.4)</td>
<td>AACP survey</td>
<td>94.7 (94.5)</td>
</tr>
<tr>
<td><strong>OVERALL Pharm.D. PROGRAM (P1-P4 YEAR)</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Alumni Q25. The PharmD program prepared me to engage as a member of an interprofessional healthcare team. (ABO 3.4)</td>
<td>AACP survey</td>
<td>96 (95.1)</td>
</tr>
</tbody>
</table>

Abbreviations: ABO (ability-based outcomes); N/A (not applied: assessment is not available or activity was not completed); IPEC (Interprofessional Education Collaborative); TBD (to be determined: data currently unavailable and will be added as the data will become available in summer-fall 2019)
* score range 0-5
## Interprofessional Team Dynamics Students’ Learning Assessment Outcome Data (Summative Data Only) by ABO Root and Desired Benchmarks

### ABO (Route) | Course/Activity | Metrics | Outcome Data for Academic Year |
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>ABO 3.4. IP Collaboration</strong></td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Overall Average score (0-5)</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark score ≥ 3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>ABO 3.6 Communication</strong></td>
<td>PHRM 340 Pathophysiology I</td>
<td>Overall % Average</td>
<td>88.4</td>
</tr>
<tr>
<td></td>
<td>PHRM 350 Introduction to Pharmacy Practice</td>
<td>% of students meeting benchmark (70%)</td>
<td>81.8</td>
</tr>
<tr>
<td><strong>ABO 3.6 Communication</strong></td>
<td>PHRM 351L Pharmacy Practice Laboratory I</td>
<td>Overall % Average</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>% of students meeting benchmark (70%)</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>ABO 4.2 Leadership</strong></td>
<td>PHRM 350 Introduction to Pharmacy Practice</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>% of students meeting benchmark (70%)</td>
<td>3.9</td>
</tr>
<tr>
<td></td>
<td>PHRM 350 Introduction to Pharmacy Practice</td>
<td>Overall Average score (0-5)</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>% of students meeting benchmark score ≥ 3</td>
<td>100.0</td>
</tr>
<tr>
<td><strong>ABO 4.4. Professionalism</strong></td>
<td>PHRM 350 Introduction to Pharmacy Practice</td>
<td>Overall % Average</td>
<td>85.5</td>
</tr>
<tr>
<td></td>
<td>PHRM 351L Pharmacy Practice Laboratory I</td>
<td>% of students meeting benchmark (70%)</td>
<td>94.6</td>
</tr>
<tr>
<td></td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Overall Average score (0-5)</td>
<td>4.0</td>
</tr>
<tr>
<td></td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>% of students meeting benchmark score ≥ 3</td>
<td>100.0</td>
</tr>
<tr>
<td>ABO (Route)</td>
<td>Course/Activity</td>
<td>Metrics</td>
<td>Outcome Data for Academic Year</td>
</tr>
<tr>
<td>------------------------------</td>
<td>------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>--------------------------------</td>
</tr>
<tr>
<td>ABO 3.4 IP Collaboration</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 3.4 IP Collaboration</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 3.4 IP Collaboration</td>
<td>PHRM 455 (IPPE2) Community Practice</td>
<td>Overall Average score (0-5)</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark score ≥ 3)</td>
<td>95.9</td>
</tr>
<tr>
<td>ABO 3.6 Communication</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>80.8</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>85.9</td>
</tr>
<tr>
<td>ABO 3.6 Communication</td>
<td>PHRM 452L Pharmacy Practice Laboratory II</td>
<td>Overall % Average</td>
<td>98.6</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>98.8</td>
</tr>
<tr>
<td>ABO 3.6 Communication</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 3.6 Communication</td>
<td>PHRM 455 (IPPE 2) Community Practice</td>
<td>Overall Average score (0-5)</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark score ≥ 3)</td>
<td>100.0</td>
</tr>
<tr>
<td>ABO 4.2 Leadership</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 4.2 Leadership</td>
<td>PHRM 455 (IPPE 2) Community Practice</td>
<td>Overall Average score (0-5)</td>
<td>4.2</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark score ≥ 3)</td>
<td>100.0</td>
</tr>
<tr>
<td>ABO 4.2 Leadership</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 4.4 Professionalism</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 4.4 Professionalism</td>
<td>PHRM 452L Pharmacy Practice Laboratory II</td>
<td>Overall % Average</td>
<td>94.7</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark (70%)</td>
<td>96.3</td>
</tr>
<tr>
<td>ABO 4.4 Professionalism</td>
<td>PHRM 455 (IPPE 2) Community practice</td>
<td>Overall Average score (0-5)</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark score ≥ 3)</td>
<td>100.0</td>
</tr>
<tr>
<td>ABO (Route)</td>
<td>Course/Activity</td>
<td>Metrics</td>
<td>Outcome Data for Academic Year</td>
</tr>
<tr>
<td>------------</td>
<td>--------------------------------------------------------------------------------</td>
<td>-------------------------------------------------------------------------</td>
<td>-------------------------------</td>
</tr>
<tr>
<td>ABO 3.4. IP Collaboration</td>
<td><strong>Pathways to Safer Opioid Use Online Simulation</strong>&lt;br&gt;&lt;br&gt;<em>Q: This simulation helped me to recognize the importance of a multidisciplinary, team-based approach to treating patients with chronic pain.</em></td>
<td>% <strong>Strongly Agree + Agree</strong></td>
<td>N/A</td>
</tr>
<tr>
<td>ABO 3.4. IP Collaboration</td>
<td><strong>UND/NDSU High-Fidelity Simulation IP Team Dynamic assessment</strong>&lt;br&gt;&lt;br&gt;Overall Average score (0-4) RUN 1&lt;br&gt;% of students meeting benchmark score ≥ 3</td>
<td>N/A</td>
<td>3.6</td>
</tr>
<tr>
<td>ABO 3.4. IP Collaboration</td>
<td><strong>UND/NDSU High-Fidelity Simulation self-rated Qualtrics post-simulation surveys (pharmacy student data only for 2018-2020)</strong>&lt;br&gt;&lt;br&gt;Participation in pre-simulation session and simulation session was beneficial for understanding:&lt;br&gt;&lt;br&gt;<em>Q1: my own pharmacy professional role.</em>&lt;br&gt;<em>Q2: the role of physicians.</em>&lt;br&gt;<em>Q3: the education of physicians.</em></td>
<td>Overall Average score 1-5 (% average Score)&lt;br&gt;% <strong>Strongly Agree + Agree</strong>&lt;br&gt;&lt;br&gt;Overall Average score 1-5 (% average Score)&lt;br&gt;% <strong>Strongly Agree + Agree</strong>&lt;br&gt;&lt;br&gt;Overall Average score 1-5 (% average Score)&lt;br&gt;% <strong>Strongly Agree + Agree</strong></td>
<td>N/A</td>
</tr>
</tbody>
</table>

N/A represents data not available.
| ABO 3.6 Communication | PHRM 536 Neuropsychiatry Pharmacotherapy  
PHRM 540 Public Health  
PHRM 545L Pharmacotherapy Lab (first time offered in 2018-2019)  
PHRM 570 Pharmacy Practice Improvement and Project Management | Overall % Average % of students meeting benchmark (70%) | 82.5 | 65.0 | 100.0 | 100.0 |
|-----------------------|-------------------------------------------------------------------------------------------------|----------------------------------------------|----------------|-------------|----------|----------|
| ABO 3.6 Communication | PHRM 551L Pharmacy Practice Laboratory III  
PHRM 552L Pharmacy Practice Laboratory IV | Overall % Average % of students meeting benchmark (70%) | N/A | 95.9 | 100.0 | 94.2 |
| ABO 3.6 Communication | UND/NDSU High-Fidelity Simulation IP Team Dynamic assessment  
Q: *Pharmacy learners communicated opinion(s) and/or pertinent information to the rest of team in a clear and concise manner.* | Overall Average score (0-4) RUN 1 % of students meeting benchmark score ≥ 3 | N/A | 3.2 | 75.6 | 51.7 |
| ABO 3.6 Communication | UND/NDSU High-Fidelity Simulation IP Team Dynamic assessment  
Q: *Pharmacy learners provided support to the team in the scope of their practice.* | Overall Average score (0-4) RUN 2 % of students meeting benchmark score ≥ 3 | N/A | N/A | N/A | 3.66 | 96.6 |
| ABO 4.2. Leadership | PHRM 540 Public Health  
PHRM 545: Pharmacotherapy Lab (first time offered in 2018-2019)  
PHRM 570 Pharmacy Practice Improvement and Project Management | Overall % Average % of students meeting benchmark (70%) | 84.9 | 85.9 | N/A | 83.6 | 78.5 |
| ABO 4.4 Professionalism | UND/NDSU High-Fidelity Simulation IP Team Dynamic assessment  
Q: *Pharmacy learners provided support to the team in the scope of their practice.* | Overall Average score (0-4) RUN 1 % of students meeting benchmark score ≥ 3 | N/A | 3.5 | 90.9 | 3.3 | 86.2 |
| ABO 4.4 Professionalism | PHRM 540 Public Health  
PHRM 570 Pharmacy Practice Improvement and Project Management  
PHRM 572 Pharmacy Law and Ethics | Overall % Average % of students meeting benchmark (70%) | 86.8 | 98.8 | 87.6 | 100.0 | 86.9 | 100.0 |
| ABO 4.4 Professionalism | PHRM 551L Pharmacy Practice Laboratory III  
PHRM 552L Pharmacy Practice Laboratory IV | Overall % Average % of students meeting benchmark (70%) | 94.3  
100.0 | 87.7  
91.1 | 88  
98.8 |
<table>
<thead>
<tr>
<th>ABO (Route)</th>
<th>Course/Activity</th>
<th>Metrics</th>
<th>Outcome Data for Academic Year</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>Overall Average score (0-5)</td>
<td>2016-2017</td>
</tr>
<tr>
<td>ABO 3.4. IP Collaboration</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>% of students meeting benchmark score ≥ 3</td>
<td>4.2</td>
</tr>
<tr>
<td>ABO 3.4. IP Collaboration</td>
<td>AACP Surveys</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>91.4 (89.8)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>98.8 (95.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>100.0 (97.9)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>94.7 (94.5)</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>93.8 (96.4)</td>
</tr>
<tr>
<td>ABO 3.6. Communication</td>
<td>PHRM 581-589 (APPE1-8)</td>
<td>Overall Average score (0-5)</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td></td>
<td>% of students meeting benchmark score ≥ 3</td>
<td>96.3</td>
</tr>
<tr>
<td>ABO 3.6. Communication</td>
<td>AACP Surveys</td>
<td></td>
<td></td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------</td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Student Q18:</strong> The Pharm.D. program prepared me to effectively communicate (verbal, non-verbal, written) when interacting with individuals, groups, and organizations.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>98.8 (97.0)</td>
<td>98.8 (96.9)</td>
</tr>
<tr>
<td><strong>Preceptor Q33:</strong> The Pharm.D. program prepares students to effectively communicate (verbal, non-verbal, written) when interacting with individuals, groups, and organizations.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>N/A</td>
<td>95.7 (94.3)</td>
</tr>
<tr>
<td><strong>Alumni Q40:</strong> The Pharm.D. program prepared me to effectively communicate (verbal, non-verbal, written) when interacting with individuals, groups, and organizations.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
<td>95.8 (96.9)</td>
<td>N/A</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABO 4.2. Leadership</th>
<th>PHRM 581-589 (APPE1-8)</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Student Q20:</strong> The Pharm.D. program prepared me to accept responsibility for creating and achieving shared goals.</td>
<td>Overall Average score (0-5)</td>
</tr>
<tr>
<td>% of students meeting benchmark score ≥ 3)</td>
<td>100.0</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>ABO 4.2. Leadership</th>
<th>AACP Surveys</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Preceptor Q35:</strong> The Pharm.D. program prepares students to accept responsibility for creating and achieving shared goals.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
</tr>
<tr>
<td><strong>Preceptor Q35:</strong> The Pharm.D. program prepares students to accept responsibility for creating and achieving shared goals.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
</tr>
<tr>
<td><strong>Alumni Q42:</strong> The Pharm.D. program prepared me to accept responsibility for creating and achieving shared goals.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td><strong>ABO 4.4 Professionalism</strong></td>
<td>PHRM 581-589 (APPE 1-8)</td>
</tr>
<tr>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>ABO 4.4 Professionalism</strong></td>
<td>AACP Surveys</td>
</tr>
<tr>
<td><strong>Student Q22:</strong> The Pharm.D. program prepared me to act in a manner consistent with the trust given to pharmacists by patients, other healthcare providers, and society.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
</tr>
<tr>
<td><strong>Preceptor Q37:</strong> The Pharm.D. program prepares students to act in a manner consistent with the trust given to pharmacists by patients, other healthcare providers, and society.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
</tr>
<tr>
<td><strong>Alumni Q44:</strong> The Pharm.D. program prepared me to act in a manner consistent with the trust given to pharmacists by patients, other healthcare providers, and society.</td>
<td>% Strongly Agree + Agree for NDSU (% of Strongly Agree + Agree National)</td>
</tr>
</tbody>
</table>

Abbreviations: Ability-based outcome (ABO); interprofessional (IP); N/A (assessment and/or outcome data not available)
Numbers in red: benchmark value not achieved by ≥85% of students
Activity/Assessment Data Color Coding:

| Didactic Curriculum | Lab Curriculum | Co-curriculum | Experiential Curriculum | AACP Surveys |
### Interprofessional Team Dynamics Students’ Learning Assessment Based on Individual IPEC Competencies for 2018-2019 in Didactic, Laboratory and Experiential Curriculum and Co-curriculum.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>ABO</th>
<th>COURSE/ACTIVITY</th>
<th>METRICS</th>
<th>OUTCOME DATA 2018-2019</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>IPEC COMPETENCY 1: Values/Ethics for Interprofessional Practice</td>
<td></td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>3.4.1</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(^{(a)}) (Overall % Average)</td>
<td>3.9 (78.0)</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(^{(a)}) (Overall % Average)</td>
<td>3.9 (78.0)</td>
</tr>
<tr>
<td>P2</td>
<td>3.4.1</td>
<td>CHP 400 Interprofessional Health Care</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>3.4.1</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>IPEC Competency Survey</td>
<td>Overall Average score (0-5)</td>
<td>4.4 (88.0)</td>
</tr>
<tr>
<td></td>
<td>3.4.1</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(^{(a)}) (Overall % Average)</td>
<td>4.5 (90.0)</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(^{(a)}) (Overall % Average)</td>
<td>4.4 (88.0)</td>
</tr>
<tr>
<td>P3</td>
<td>3.4.1</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>94.9</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>Didactic Curriculum</td>
<td>Overall % Average</td>
<td>100.0</td>
</tr>
<tr>
<td>P4</td>
<td>3.4.1</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score(^{(a)}) (Overall % Average)</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score(^{(a)}) (Overall % Average)</td>
<td>4.4 (88.0)</td>
</tr>
<tr>
<td>P1</td>
<td>3.4.2</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>3.8 (76.0)</td>
</tr>
<tr>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
<td>---</td>
</tr>
<tr>
<td>4.4.2</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>3.8 (76.0)</td>
<td></td>
</tr>
<tr>
<td>P2</td>
<td>3.4.2</td>
<td>CHP400 Interprofessional Health Care Practice</td>
<td>Overall % Average</td>
<td>95.8</td>
</tr>
<tr>
<td>3.4.2</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>95.6</td>
<td></td>
</tr>
<tr>
<td>N/A</td>
<td>IPEC Competency Survey</td>
<td>Overall Average score (0-5)</td>
<td>4.4 (88.0)</td>
<td></td>
</tr>
<tr>
<td>3.4.2</td>
<td>PHRM 355 (IPPE2 ) Community Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.3 (86.0)</td>
<td></td>
</tr>
<tr>
<td>4.4.2</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.3 (86.0)</td>
<td></td>
</tr>
<tr>
<td>P3</td>
<td>3.4.2</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>95.8</td>
</tr>
<tr>
<td>4.4.2</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>92.9</td>
<td></td>
</tr>
<tr>
<td>4.4.2</td>
<td>Didactic Curriculum</td>
<td>Overall % Average</td>
<td>100.0</td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>3.4.2</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.2 (84.0)</td>
</tr>
<tr>
<td>4.4.2</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.4 (88.0)</td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>3.4.3</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(^a) (Overall % Average)</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td>----</td>
<td>-------</td>
<td>----------------------------------------</td>
<td>---------------------------------------</td>
<td>-----------</td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(^a) (Overall % Average)</td>
<td>3.8 (76.0)</td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>PHRM 340 Pathophysiology I</td>
<td>Overall % Average</td>
<td>84.8</td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>PHRM 351L Pharmacy Practice Laboratory I</td>
<td>Overall % Average</td>
<td>100.0</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(^a) (Overall % Average)</td>
<td>3.9 (78.0)</td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>CHP 400 Interprofessional Health Care Practice</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(^a) (Overall % Average)</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>IPEC Competency Survey</td>
<td>Overall Average score (0-5)</td>
<td>4.4 (88.0)</td>
</tr>
<tr>
<td>P2</td>
<td>3.6</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>89.5</td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>PHRM 452L Pharmacy Practice Laboratory II</td>
<td>Overall % Average</td>
<td>93.3</td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(^a) (Overall % Average)</td>
<td>4.3</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>97.4</td>
</tr>
<tr>
<td></td>
<td>4.2.4</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>97.4</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(^a) (Overall % Average)</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>92.9</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>99.0</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>Didactic Curriculum</td>
<td>Overall % Average</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>-------</td>
<td>---------------------</td>
<td>------------------</td>
<td></td>
</tr>
<tr>
<td>P4</td>
<td>3.4.3</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score* (Overall % Average) 4.3 (86.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.6</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score* (Overall % Average) 4.2 (84.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score* (Overall % Average) 4.4 (88.0)</td>
<td></td>
</tr>
<tr>
<td>P1</td>
<td>3.4.3</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td>P2</td>
<td>3.4.3</td>
<td>CHP 400 Interprofessional Health Care Practice</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>95.9</td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.3 (86.0)</td>
</tr>
<tr>
<td>P3</td>
<td>3.4.3</td>
<td>UND/NDSU Interprofessional Simulation RUN 2</td>
<td>Overall % Average</td>
<td>92.9</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 350 Introduction to Pharmacy Practice</td>
<td>Overall % Average</td>
<td>94.5</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>3.8 (76.0)</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>3.9 (78)</td>
</tr>
<tr>
<td></td>
<td>4.1.6</td>
<td>PHRM 355 (IPPE1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>3.7 (74.0)</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 355 (IPPE 1) Institutional Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.2 (84.0)</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>CHP 400 Interprofessional Healthcare Practice</td>
<td>Overall % Average</td>
<td>97.4</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 450 Self-Care</td>
<td>Overall % Average</td>
<td>TBD</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>Team-based Collaborative Care Simulation as part of CHP 400</td>
<td>Overall % Average</td>
<td>3.8 (76.0)</td>
</tr>
<tr>
<td></td>
<td>4.4.1</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>4.4 (88.0)</td>
</tr>
<tr>
<td></td>
<td>N/A</td>
<td>IPEC Competency Survey (P1-P3)</td>
<td>Overall Average score (0-5)</td>
<td>4.4</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 355 (IPPE 2) Community Practice</td>
<td>Average Score(a) (Overall % Average)</td>
<td>3.8 (76.0)</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 540 Public Health</td>
<td>Overall % Average</td>
<td>83.6</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 545: Pharmacotherapy Lab (first time offered in 2018-2019)</td>
<td>Overall % Average</td>
<td>83.6</td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 570 Pharmacy Practice Improvement and Project Management</td>
<td>Overall % Average</td>
<td>83.6</td>
</tr>
<tr>
<td>P4</td>
<td>4.4.1</td>
<td>Didactic Curriculum</td>
<td>Overall % Average</td>
<td></td>
</tr>
<tr>
<td>----</td>
<td>-------</td>
<td>---------------------</td>
<td>-------------------</td>
<td></td>
</tr>
<tr>
<td></td>
<td>3.4.3</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score (Overall % Average) 4.3 (86.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.1.6</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score (Overall % Average) 4.2 (84.0)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>4.2</td>
<td>PHRM 581-589 (APPE 1-8)</td>
<td>Average Score (Overall % Average) 4.1 (82.0)</td>
<td></td>
</tr>
</tbody>
</table>

Abbreviations: Ability-Based Outcomes (ABO); Interprofessional Education Collaborative (IPEC).

*score range 0-5