

School of Physical Therapy  
University of Saskatchewan

PTH 992 Major Project

Research Project Ranking  
Class of 2019

Student Name: \_\_\_\_\_

NSID#: \_\_\_\_\_

The Major Project is a progressive, supervised group experience spanning the entire MPT program. It involves the disciplined investigation of topics related to the practice of physical therapy and has been designed to develop inquiry, reflection, critical thinking, critical appraisal of the literature, writing, and presentation skills.

Each student will be assigned to one of the seven projects. We will try to match students to their preferred topic area. Although we can't ensure that students will get their first or even second choice, we will consider the rankings when we assign students to groups. If no response is received before August 1st, we will proceed with assignment ensuring that there are at least five students assigned to each project.

Please rank the following topics in order of your preference.

	<b>Project Topic</b>	<b>Rank Preference</b> (1= most preferred, 8 = least preferred)
1	Investigate the role of Physical Therapy in improving Ingenious Health in Saskatchewan (Saskatoon) through Experiential Learning	
2	Fall Risk and Fall Injury Prevention Exercise for Older Men and Women	
3	Gait Evaluation in Physical Therapy	
4	Phantom Limb Pain and Function in Amputees	
5	Have we oversimplified the rotator cuff?	
6	Building Cultural Competence in Indigenous Health through Experiential Learning	
7	The Impact of Strength Training and High-Intensity Conditioning on Metabolic and Cardiovascular Risk Factors	

Refer to the Project Description below for more information on each topic.

Please email your ranking preferences to Liz Scott at [liz.scott@usask.ca](mailto:liz.scott@usask.ca) by 8:00 a.m. on July 31, 2017.

**University of Saskatchewan  
School of Physical Therapy**

**PTH 992 Project Descriptions  
Class of 2019**

**PROJECT 1**

**Faculty Advisor:** Ina van der Spuy

**Topic:** Investigate the role of Physical Therapy in improving Ingenious Health in Saskatchewan (Saskatoon) through Experiential Learning

**Key words:** Social determinants of health in Saskatchewan; Ingenious health in Saskatchewan; Cultural competence in Ingenious Health in Canada; Primary health care; Interprofessional team; Evidence-based practice; Qualitative research methodology

**Research Question:** Through experiential learning [volunteering at SWITCH (Student Wellness Initiative Toward Community Health), writing reflective papers and interviewing peers] students will develop a better understanding of the specific problems this population experience and the possible role of the PT in improving the health status of Indigenous peoples.

**Methodology:** Qualitative methodologies – phenomenology, ethnography and case studies

**Student Roles:** The [SWITCH](#) clinic is a student-managed initiative that strives to augment the training of future professionals at the same time as improving the health, skills and education levels of individuals living in the core communities and neighborhoods of Saskatoon.

As part of the 992 project, students will:

- Participate in a SWITCH orientation session
- Volunteer at SWITCH shifts throughout the MPT program (as determined with Ina)
- Enhance their subjective history taking skills
- Apply evidence-based practice and learn more about PT in primary health care teams
- Understand ethical considerations in working with marginalized populations
- Learn more about the impact of social determinants of health
- Perform literature reviews in population health, indigenous health, primary health care, etc.
- Learn about various qualitative methods (phenomenology, ethnography and case studies)
- Develop case studies based on experiences at SWITCH

## **PROJECT 2**

**Faculty Advisor:** Cathy Arnold

**Topic:** Fall Risk and Fall Injury Prevention Exercise for Older Men and Women

**Key words:** risk factors; accidental falls; sex and gender

**Research Question:** TBD

The specific focus of the questions will be developed in collaboration with my research team and the students. In general, the topic will explore the literature identifying fall and injury risk factor differences in men and women and analysis will use existing data that has been collected from a current intervention study.

**Methodology:** May involve both quantitative and qualitative (data from focus group discussions) methods.

**Student Roles:** Literature review, collaboration and meetings with supervisor and other members of our team; some components of data entry, analysis and interpretation. Depending on MPT timetable, may have opportunities to observe and assist with a fall prevention class and participate in focus group planning and discussions.

### **PROJECT 3**

**Faculty Advisor:** Liz Harrison

**Topic:** Gait Evaluation in Physical Therapy

**Key words:** Gait, Evaluation Systems, Walking, Clinical application

The overall goal of the project is to advance understanding and applications of common gait evaluation methods used in physical therapy practice.

**Research Question:**

Key questions related to gait analysis (e.g., psychometric properties of the tools, changes in gait parameters with different individuals, clinical feasibility, etc.) will be developed by the students using their knowledge of gait, gait evaluation systems and specifically using a portable gait analysis system (Gait rite). Key questions will be determined by the students based on specific interests in the area.

**Methodology:**

In addition to a review of literature related to common gait evaluation methods, students will have the opportunity to work with the Gait Rite System to evaluate gait parameters in different populations (to be determined by the group).

**Student Roles:**

Literature review; Explore common gait evaluation systems used in selected PT practices; Develop expertise in operating the Gait Rite system and other common clinical gait systems; Carry out a descriptive study using the Gait rite system in a population (to be determined by the students and faculty advisor). (If a patient population is to be studied students will also have the opportunity to develop an ethics proposal prior to the study.)

## **PROJECT 4**

**Faculty Advisor:** Audrey Zucker-Levin

**Topic:** Phantom Limb Pain and Function in Amputees

**Key words:** Phantom Limb Pain, Amputees, Function, Clinical application

The overall goal of the project is to understand the correlations among the many variables that contribute to phantom limb pain.

**Research Question:**

Key questions related to the overall goal will include the relationship among variables that contribute to phantom limb pain. Specific key questions will be determined by the students based on review of literature and interests in the area.

**Methodology:**

In addition to a review of literature, students will have the opportunity to interact with patients, physicians, prosthetists, and therapists at City Hospital.

**Student Roles:**

Literature review; Explore causes and treatments of phantom limb pain; Develop expertise in acute care management of amputees; Develop and ethics proposal prior to data collection; Carry out an objective study using justified equipment/questionnaires for data collection. Manuscript development for publication.

## **PROJECT 5**

**Faculty Advisor:** Soo Kim

**Topic:** Have we oversimplified the rotator cuff?

**Key words:** shoulder, rotator cuff, electromyography, strength, shoulder pathology

**Research Question:**

Are there neuromuscular partitions within the individual rotator cuff muscles? Are there temporal differences in the recruitment patterns between the partitions of the rotator cuff muscles that physical therapists can address in patients with pathology?

**Methodology:** Fine wire electromyography, ultrasound imaging, strength training

**Student Roles:** Assist with data collection and data analysis

## **PROJECT 6**

**Faculty Advisor:** Sarah Oosman

**Topic:** Building Cultural Competence in Indigenous Health through Experiential Learning

**Key Words:** social determinants of health; interprofessional team; primary health care; Indigenous health; qualitative research methodology; evidence-based practice; student-directed learning;

**Research Question/Objectives:** Students will explore how their experiences volunteering at the SWITCH clinic (Student Wellness Initiative Toward Community Health) impact their perception of developing cultural competency.

**Methodology:** Students will volunteer at SWITCH clinic, be involved in journaling, reflective and evidence-based physical therapy practice, and other qualitative methodologies (e.g. Autoethnography).

### **Student Roles:**

The [SWITCH](#) clinic (Student Wellness Initiative Toward Community Health) “is a student-managed initiative that strives to augment the training of future professionals at the same time as improving the health, skills and education levels of individuals living in the core communities and neighborhoods of Saskatoon”.

Students who will work on this 992 project may be involved in some or all of the following activities:

- Apply physical therapy evidence to practice
- Participate in a SWITCH orientation session
- Learn about various qualitative methods (including case study methods or ethnography)
- Enhance subjective history taking skills
- Understand ethical considerations in working with marginalized populations
- Perform literature reviews in population health, primary health care
- Learn more about the impact of social determinants of health
- Learn more about PT in primary health care teams
- Develop reflections based on experiences at SWITCH (ensuring optimal privacy and ethical practice)
- Volunteer at SWITCH shifts throughout the MPT program (as determined with Sarah)
- Enhance development of cultural humility skills

## **PROJECT 7**

**Faculty Advisor:** Scotty Butcher

**Topic:**

The Impact of Strength Training and High-Intensity Conditioning on Metabolic and Cardiovascular Risk Factors

**Research Question:**

Do strength training and high-intensity conditioning have a positive impact on metabolic and cardiovascular health and disease markers in middle aged and older adults?

**Methodology:**

This is a feasibility project with some option as to the exact methodology. This will be discussed within the group. We may do this as part of a randomized controlled trial, or as a pre-post single group design.

**Student Roles:**

To be determined and discussed within the group. In general, students are involved with testing the outcome measures (strength, cardiovascular fitness, functional measures, etc.) and other aspects of the project in which they are interested.