



# GLOBAL SURGERY



## MSc Global Surgery

Global Surgery Division  
Department of Surgery  
Faculty of Health Sciences  
University of Cape Town

**Course Outline 2023**

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## **Introduction**

The University of Cape Town's Division of Global Surgery was proudly one of the first Universities internationally to offer the Global Surgery MSc and PhD degrees. The structured program provides an opportunity for leaders in healthcare in the public, private and voluntary sectors to become change agents within their context. Global Surgery is the interface between surgical care, health systems and public policy, and focusses on strengthening health systems and equity by improving access to surgical care, whilst creating a platform for conducting clinically relevant research to add to the growing body of evidence-based practice.

## **Aim of the MSc**

A Master's degree is frequently a student's first encounter with academic research. Its primary function is training in research. It is a clearly circumscribed piece of work that the supervisor feels confident can be undertaken within, or close to, the minimum time (generally within two years). The skills imparted, and which the candidate hones through the process, include posing a research question, undertaking a relevant literature review, engaging rigorously with research methods, drawing valid conclusions, and communicating findings in a clear, logical and scholarly way. Importantly, the work does not have to contain original findings – it must simply demonstrate a mastery of the methods of research

Master's candidates may apply to upgrade their candidature to PhD candidature before submitting their dissertation for examination for the master's degree for which they have registered; once a submitted dissertation has been sent by the University to examiners, it may not be withdrawn, nor may such candidates apply to upgrade their candidature to PhD candidature.

## **Programme structure**

The MSc GLOBAL SURGERY DISSERTATION is an NQF level 9 course with 180 NQF credits with up to 50 000 words. MSc Global Surgery with code CHM7077W covers the following areas.

## **UNDERSTANDING GLOBAL SURGERY RESEARCH**

Global Surgery is an interdisciplinary field of enquiry, research, practice, and advocacy that aims to create greater value in healthcare by improving health outcomes and achieving health equity for all people who need surgical, obstetric and anaesthesia care, with an emphasis on underserved, marginalized and vulnerable populations.

Global Surgery research interrogates both the unmet need for access to care and quality of surgical care, with a focus on health system strengthening. Global surgery is about finding solutions to access equitable, and comprehensive transdisciplinary surgical care. These solutions can be used to strengthen surgical healthcare systems.

### **Scientific priorities at global surgery division**

The *scientific priorities* at Global surgery division include: the need to provide *essential surgery* in low- and middle-income countries; and the need to strengthen the *surgical systems* providing care in this environment; understand the contribution of *underlying medical conditions* which underpin adverse surgical outcomes in the provision of health care.

### **Essential surgeries**

Through the work we have already conducted in this environment we have identified the following surgeries as essential to advance safe surgery in a resource-limited environment:

- Appendicitis,
- Emergency laparotomy,
- Ectopic pregnancy,
- Trauma due to injuries and violence,
- Caesarean section (maternal mortality is up to 50x higher than high-income countries), (2)
- Paediatric surgery (paediatric mortality is up to 10x higher than high-income countries), (3)
- Neglected surgeries in communities without access to surgical subspecialties,
- Cancer surgery, as a result of rising non-communicable diseases. (4)

## **Surgical systems**

- The challenges facing systems for surgical delivery in an African context require further research to understand and develop cost-effective solutions. Priorities include capacitating district hospitals to provide surgical services, and strengthening the role of community surgical education, and referral.

## **Underlying medical conditions:**

The burden of the following diseases is rising in resource-limited environments, and adversely affect surgical outcomes:

- Cardiovascular disease,
- Diabetes,
- Obesity, and
- Hypertension.

## **OVERARCHING RESEARCH QUESTIONS AT GLOBAL SURGERY DIVISION**

### **Global Surgery Research questions are based on a Research Framework and Strategy**

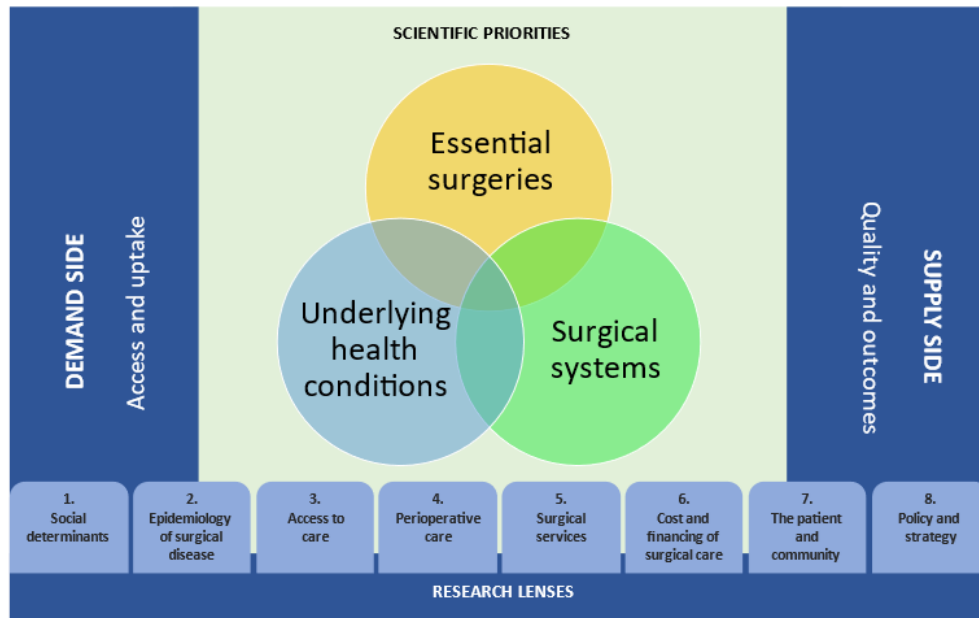
The Research Framework follows a pathway of evidence generation based upon three principles:

- What is the state of the current surgical environment?
- How can we optimise the conditions for surgery in this environment?
- How can we best bring about system change to embed surgical therapies for universal healthcare in the healthcare system?

This Research Framework reflects our responses to a dynamic, changing outside world and all its complexities. Therefore, it is reasonable to expect that the strategy may change with the assimilation of evidence, and changes in the surgical environment.

## Expertise to address the Research Strategy

This Research Strategy requires expanded research partnerships locally and internationally and growth of the Research Team over the next five years



## Common themes in Global Surgery Research

The themes at Global Surgery Division are listed in the Research Strategy which acknowledges that excellent research is built upon rigorous methodologies. It also acknowledges the critical role that that innovation may play in *leap frogging* barriers to quality surgical care. The strategy is built on the assumption that global surgery research should be needs-driven and solutions-oriented, and that research questions and findings should be ideally co-produced with potential users, building their capacity in the process

**Global Surgery Research addresses the role of surgery in addressing the priorities of the:**

- Sustainable Development Goals (SDGs),
- Social Determinants of Health,
- Indicators of the Lancet Commission of Global Surgery, and the delivery of the Bellwether procedures for safe and affordable surgery for all, (1) and
- Acknowledges the patient as the centre of the research.

**For the research to be prioritised, it needs to fulfil most, in not all, of the following requirements:**

- Would the surgical benefits be widespread and significant to vulnerable populations, and advance equity and social justice?
- Would the research increase the evidence-base for high-quality, low-cost, surgical systems?
- Are we using a research methodology which is ethical, robust and efficient?
- Would we best placed to undertake this research?
- Would the research advance the SDGs?

## UCT Global Surgery Research Lenses

The *research lenses* are underpinned by the *assumptions* in the *Theory of Change* which include:

- The importance of user-centred, interdisciplinary approach to patient care,
- A need for coordination of activities to improve surgical care, and
- Collaboration between priority stakeholders for improving healthcare systems.

The lenses are defined as follows:

- **Social Determinants of Health**
- **Epidemiology and the Health System:** Our current understanding of the delivery, quality, and outcomes of surgery.
- **Access to surgical care**
- **Perioperative care**
- **Surgical Services:** An understanding of the composition and number of surgical services available.
- **Cost and financing of surgical care**
- **The Patient and Community:** The patients' understanding of surgery and surgical need, and the role of surgery in planetary health and its impact on the community
- **Policy and strategy**



## **REQUIREMENTS FOR ENROLMENT**

### **In-depth knowledge in your specialised area**

Students are required to undertake an extensive literature review for the thesis. Part of this should be done before planning the project/s, but students are also required to keep up with new publications in their area throughout the time-course of your projects and write-up. The final literature survey must be up to date. You are required to submit your research proposal to the appropriate Ethics Committee and Postgraduate Research Committee of the Faculty of Health Sciences. You are encouraged to contact researchers from other UCT departments, local and international universities whose interests overlap with your own.

### **Types of research**

#### **1.1 Multi-centre clinical outcomes research, including:**

- Observational/ prognostic research (Evaluating where the most harm is seen)
- Interventional trials (Assessing what could be done to address that harm)
- Patient reported outcomes research, using low-cost patient reporting e.g. mobile technology reporting (Determining what outcomes are most important to patients)

#### **1.2 Implementation science research:**

- Undertaking quality improvement interventions.
- Monitoring and comparing results across sites.
- Undertaking process evaluation of healthcare interventions to understand the pathway to impact and improve health practices and outcomes.

### **1.3 Building and maintaining, public anonymised Health Systems and Data Registry using data science. This includes:**

- A repository of surgical sites across Africa, including human and physical resources
- Minimum data sets for surgical patients and outcomes across Africa (allowing monitoring and evaluation across sites)
- Connect (interoperability) to existing health systems and data registries and data sets, such as those managed by the Departments of Health.

### **1.4 Undertaking targeted laboratory work to provide basic science evidence for:**

- The predeterminants of population health
- Affordable clinical interventions for a low resource environment.
- Developing biomedical devices for low resource settings.

### **Research process**

1. The concept note must be submitted with application to the Division Research Committee, for the approval of the student, topic, supervisors and setting.
2. The full research proposal must be submitted to the Departmental Research Committee of the Department of Surgery, Faculty of Health Sciences.
3. After approval by the Surgical DRC is granted, the proposal must be submitted to the Human Ethics Research Committee. Data collection may not commence until the HREC approval is received.
4. If further approvals are required, approvals must also be obtained from the appropriate research ethics committee, and facilities before data collection is started.
5. Data collection may be done by the student, within the timelines stipulated in the MOU and the proposal.
6. Data analysis can be done with the assistance of a Biostatistician sourced by either the student or the by the Division. The faculty of Health Sciences and the Department has Biostatisticians that are available for postgraduate students.
7. The format of the write-up will be decided upon by the student with the supervisor. Students who aim to submit in the publication format will have to refer to the UCT postgraduate rules.

## List of Primary Supervisors

	Name	Discipline	Interests
1	Salome Maswime	Obstetrics and Gynaecology	<ul style="list-style-type: none"> <li>• Obstetric surgery</li> <li>• Perinatal health</li> <li>• Preparedness for surgery</li> <li>• Placental science</li> </ul>
2	Bruce Biccard	Anaesthesia and Perioperative Medicine	<ul style="list-style-type: none"> <li>• Perioperative outcomes</li> <li>• Data systems</li> </ul>
3	Tracey Adams	Obstetrics and Gynaecology	<ul style="list-style-type: none"> <li>• Gynae-oncology</li> <li>• Women's surgery</li> <li>• Surgical outcomes</li> </ul>
4	Shrikant Peters	Public Health	<ul style="list-style-type: none"> <li>• Theatre management</li> <li>• Health systems strengthening</li> <li>• Surgical infrastructure</li> </ul>
5	Rowan Duys	Anaesthesia and Perioperative Medicine	<ul style="list-style-type: none"> <li>• Perioperative outcomes</li> <li>• District health surgery</li> </ul>
6	Christella Alphonsus	Anaesthesia and Perioperative Medicine	<ul style="list-style-type: none"> <li>• Preoperative cardiac optimization</li> </ul>
7	Lydia Cairncross	Breast and Endocrine surgery	<ul style="list-style-type: none"> <li>• Cancer surgery</li> <li>• Health policy</li> </ul>
8	Nisha Jacob	Public Health	<ul style="list-style-type: none"> <li>• Health systems</li> <li>• Health Policy</li> </ul>
9	Charmaine Cunningham	Emergency Medicine	<ul style="list-style-type: none"> <li>• Access to healthcare</li> <li>• Community response systems</li> <li>• Qualitative research methods</li> </ul>
10	Sithombo Maqungo	Orthopaedics	<ul style="list-style-type: none"> <li>• Trauma</li> <li>• Injuries</li> <li>• Intimate partner violence</li> </ul>
11	Jocelyn Park-Ross	Anaesthesia and Perioperative Medicine	<ul style="list-style-type: none"> <li>• Pre-hospital care</li> <li>• Education</li> <li>• Quality improvement simulation</li> </ul>

## **Fellowship programme**

New students will have the opportunity to join the various global surgery events and programmes. Students are encouraged to attend research courses provided by the Faculty of Health Sciences. Students are also required to attend Global Surgery Workshops and courses.

### ***Students will be expected to attend the following meetings***

- Global Surgery Research Fellows Workshop in January
- Monthly fellows' meetings (2<sup>nd</sup> Friday of the month from 13:00 – 14:00)
- Monthly academic meetings (3<sup>rd</sup> Friday of the month from 13:00 – 14:00)
- Annual conference in September
- Global Surgery Foundations course in September

### ***Highly recommended courses***

- Understanding Clinical Research (<https://www.coursera.org/learn/clinical-research>)
- MPH Fundamentals in Global Surgery Elective (February to June)
- Executive Leadership in Global Surgery (January to June)

### ***Opportunities***

Postgraduate students will have the opportunity to join Global Surgery Implementation and Advocacy projects. Contact the Dr Simon Le Roux (simon.leroux@uct.ac.za)

## Recommended Reading Materials as one contemplates Joining Global Surgery

1. Meara J, Leather A, Hagander L, Alkire C, Alonso N, Ameh E, et al. Global Surgery 2030: evidence and solutions for achieving health, welfare, and economic development. *Lancet* 2015;386:569-624
2. Farmer P, Kim J. Surgery and global health: a view from the OR. *World J Surgery* 2008;32:533-536
3. Biccard B, Madiba T, Kluyts H, Munlemvo D, Madzimbamuto F, Basenero A, et al. Perioperative patient outcomes in the African Surgical Outcomes Study: A 7-day prospective observational cohort study. *Lancet* 2018;391(10130):1589-1598
4. Bishop D, Dyer R, Maswime S, Rodseth R, van Dyk D, Kluyts H, et al. Maternal and neonatal outcomes after caesarean delivery in the African Surgical Outcome Study: a 7-day prospective observational cohort study. *Lancet Global Health* 2019;7(4):E513-E522
5. Wladis A, Roy N, Lofgren J. Lessons from the early years of Global Surgery. *British Journal of Surgery* 2019; 106(2): e14-e16  
Donabedian. Evaluating the quality of medical care. *The Milbank Quarterly* 2005;83(4):691-729
6. Surgical Care Systems Strengthening – developing NSOAP’s (WHO)
7. Surgical Care and Health Systems , Spiegel

## **Frequently Asked Questions:**

### **1. When do applications open and close?**

Applications open in June and the closing date is the 31 October. Applicants will be informed of the outcome end November/beginning December.

### **2. Who do I contact for an application form?**

Contact Ms Salega Tape at the UCT Postgraduate office. Her email address is: [salega.tape@uct.ac.za](mailto:salega.tape@uct.ac.za) and her telephone number is 021 021 406 6340

### **3. Who should I contact if I have any other queries related to progress of the degree?**

Please contact the course coordinator Mr Moses Isiagi. His email address is: [moses.isiagi@uct.ac.za](mailto:moses.isiagi@uct.ac.za)

### **4. How long does it take to complete the MSc Degree?**

This is a two-year course to complete all coursework. Students are encouraged to evaluate their mid-year and annual Progress reports and international students are required to check with the international office to have their migration status up to date. During year two of the course students are expected to submit to master's degree board and if they are not able to finish within the required time, they motivate for additional years based on supervisor recommendations.

### **5. What is the requirement for a full master's dissertation**

- The requirement for a full master's dissertation, conducted under supervision, must not exceed 50 000 words in length and must be on a topic in Global Surgery.
- The requirement for a full PhD thesis, conducted under supervision, must not exceed 80 000 words in length and must be on a topic in Global Surgery.
- The dissertation is externally examined.

### **6. What is the costs involved?**

In 2022, The course code fees are ....., with and addition International student fee of ....(5% increase will be implemented in 2023).

### **7. Can you tell me more about Global Surgery?**

More information on Division of Global Surgery <http://www.globalsurgery.uct.ac.za/>

## ADDENDUMS

### Proposal Cover Page



**UNIVERSITY OF CAPE TOWN**  
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

HEALTH SCIENCES



**GLOBAL  
SURGERY**

**Global Surgery Division  
Department of Surgery  
Faculty of Health Sciences  
University of Cape Town**

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**Title of the study**

**MSc/PhD (Global Surgery) Proposal**

**YOUR NAME**

Qualifications

**SUPERVISOR:**

Professor ....

**CO-SUPERVISORS**

Professor ....

Dr ...

**JULY 2022**

## Consent Form (an example)



**UNIVERSITY OF CAPE TOWN**  
IYUNIVESITHI YASEKAPA • UNIVERSITEIT VAN KAAPSTAD

**HEALTH SCIENCES**



**GLOBAL  
SURGERY**

### **TITLE OF THE STUDY**

### **PARTICIPANT INFORMATION**

#### ***Who are we and what is this project about?***

We are researchers, representing the Division of Global Surgery, in the Department of Surgery, in the Faculty of Health Sciences, at the University of Cape Town. You are receiving this invitation, as part of a community or group, in one of four suburban areas in Cape Town.

You have been invited to participate in a project in which we hope to get a better understanding about the way in which the neighbourhood environment may impact, both positively and negatively, on levels of physical activity, in getting to and from places, as well as physical activity for recreation and/or health. We have chosen groups who meet already regularly, firstly so that it does not involve additional travel for you. We have chosen different neighbourhoods, and so that it adds sufficient variety to our results, to gain understanding.

#### ***If I choose to participate, what is expected of me?***

On your first visit, we will be asking questions concerning your levels of physical activity, your current health status, some questions concerning your age, education and work experience, and some questions about your neighbourhood. The questions about your neighbourhood refer to the estimated walking distance to various types of destinations (post office, school, transport stations, shopping, medical services, etc.), some questions concerning neighbourhood appearance and safety, or “walkability”. All of these questions should not take more than 30 minutes to answer.

Should you decide to volunteer, we will also be asking you to wear a small plastic device on a belt around your waist for 7 days or until your next meeting. This device counts the number of steps that you take, and all of your movement while you are wearing the device. From this, we can determine the number of minutes that you spend each day in light, moderate and vigorous activity.



Finally, we will ask for the nearest street intersection to your home (not your home address). We will use this intersection as a landmark, and using mapping software programmes, we will be able to determine levels of crime, traffic safety, and access to certain amenities. By using your street intersection, instead of your address, your privacy will be maintained.

On your second meeting, one week later, we will collect the step counter device and repeat only the questions concerning your neighbourhood. This helps us to determine if the questionnaire is reliable.

Thank you for your consideration in participating in this project.

***Are there any benefits or risks in taking part in this project?***

There are no direct benefits to you personally in taking part in this project. We will be sharing the overall results with participants. However, there are also no risks to your health or well-being in taking part in the project. Completing the questionnaires will take about 30 minutes of your time, and the step counting device and questionnaires will be administered and fitted on a day in which you are already meeting, to save travel time and inconvenience.

***Will my information be protected and remain confidential? With whom will the results of this project be shared?***

The information that you provide in the questionnaires will remain confidential, along with the measured levels of physical activity from the step counting device. Once you have signed consent, and agreed to participate in the study, you will be given a study number, and your results will be stored separately to your name. Also, we will not use your street address to map your neighbourhood, but simply the nearest street intersection, which will also protect your privacy.

The overall results of this study will be used to prepare a report and manuscript to share with other researchers, and policy makers, so that they may be informed about the way in which the neighbourhood environment may impact on opportunities for physical activity. You will never be identified, nor your community or church group, by name, in any report or document.

***Am I obliged to participate or remain in the study?***

You may choose to take part in this study or you may choose not to take part. If you choose to participate in the project, you have the right to withdraw at any stage.

***What if I have any questions or concerns?***

If you have any queries or questions regarding the research study or your rights as a participant, please feel free to contact any the following people to share your concerns or answer your questions.

Professor Salome Maswime..... (Project leader, Supervisor)

Moses Isiagi..... (Student investigator)

Associate Professor Mark Blockman, Chair of the Health Science Faculty Research Ethics Committee, Old Main Building of Groote Schuur Hospital, Floor E52, Room 23, Observatory, 7925.

**INFORMED CONSENT**

The study has been described to me in language that I understand and I freely and voluntarily agree to participate. My questions about the study have been answered. I understand that my identity will not be disclosed and that I may withdraw from the study without giving a reason at any time and this will not negatively affect me in any way.

**Participant's name.....**

**Participant's signature.....**

**Date.....**

**Witness Signature.....**