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INTRODUCTION

Welcome to the Lee Kong Chian School of Medicine (LKCMedicine). This handbook provides useful information for PhD students and faculty at LKCMedicine. If you have any questions, please contact the Graduate Programmes team:

<table>
<thead>
<tr>
<th>Contact Details</th>
</tr>
</thead>
</table>
| Office Hours:   | Monday to Thursday: 8.30am to 5.45pm  
                  | Friday: 8.30am to 5.15pm             |
| Location:       | Education Management  
                  | Level 6, Clinical Sciences Building,  
                  | 11 Mandalay Road, Singapore 308232     |
| Telephone:      | (65) 6904 2067 / (65) 6904 2068     |
| Email:          | gradprog_LKCmedicine@ntu.edu.sg     |
| Website:        | www.lkcmedicine.ntu.edu.sg/programmes/PhD |

We hope you would find this handbook useful as a student and we wish you a pleasant stay in NTU and a successful and rewarding experience in LKCMedicine.

Key Contacts

If you need clarification on any of the topics listed in this handbook, or if you have queries related to you as PhD programme faculty, please do not hesitate to contact us.

<table>
<thead>
<tr>
<th>Staff</th>
<th>Designation</th>
<th>Contact No./Email</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ms Zarifah Mohamad</td>
<td>Assistant Manager</td>
<td>(65) 6904 2067</td>
<td>Education Management, Level 6, Clinical Sciences Building, Novena Campus</td>
</tr>
<tr>
<td>Ms Elaine Lim</td>
<td>Manager</td>
<td>(65) 6514 1500 <a href="mailto:Layhong.lim@ntu.edu.sg">Layhong.lim@ntu.edu.sg</a></td>
<td></td>
</tr>
<tr>
<td>Mr Edwin Lim</td>
<td>Deputy Director</td>
<td>(65) 6904 2068 <a href="mailto:Edwinlimyp@ntu.edu.sg">Edwinlimyp@ntu.edu.sg</a></td>
<td></td>
</tr>
</tbody>
</table>
Programme Overview

The LKCMedicine PhD by research programme aims to admit the brightest students from a variety of backgrounds – natural science, medicine, social science and engineering - and expose them to a range of topics and disciplines such that on completion, graduates have a deep knowledge and appreciation of both translatable and translational medical research methods.

It is designed to train and equip students with essential skills that will enable them to conduct cutting-edge research in one of the following domains:

- Lifespan Medicine
- Population Medicine
- Medical Biology
- Medical Engineering
- Medical Education Research

Students are expected to complete the programme in four years. The programme is open to applicants who are keen to pursue PhD studies on a full-time or part-time basis (self-financing). The minimum and maximum candidatures are as follows:

- Full-time: minimum 3 and maximum 5 years
- Part-time: minimum 3 and maximum 7 years
- Full-time & Part-time: minimum 3 and maximum 5 years (For students admitted from AY2019-20) ¹

¹ Students who fail to meet the maximum candidature are to pay the tuition fees themselves.
Programme Milestones

**Year 1**

**Clinician students** (registered with the Singapore Medical Council) are required to complete the following components in Year 1:

<table>
<thead>
<tr>
<th>S/No</th>
<th>Components</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Confirmation on Supervisors and Research Topic</td>
<td>By end of the second month from enrolment</td>
</tr>
<tr>
<td>2</td>
<td>Formation of Thesis Advisory Committee (TAC)</td>
<td>By end of the sixth month from enrolment</td>
</tr>
<tr>
<td>3</td>
<td>Two Core Courses (6 AUs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. MD9001 The Ethics and Practice of Research, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. MD9101 Biostatistical Methods and Basic Epidemiology</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Two Elective Courses (6 AUs)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Online Collaborative Institutional Training Initiative (CITI) Courses on Research Ethics</td>
<td>By end of Year 1</td>
</tr>
<tr>
<td>6</td>
<td>TAC Meeting</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Attendance at Research Seminars (at least 10)</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Information Research and Management Workshop</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>ERI701: Epigeum Research Integrity Course (ERIC) by first semester</td>
<td></td>
</tr>
</tbody>
</table>

**Non-Clinician students** (including those who hold MBBS/MD qualification but are not registered with the Singapore Medical Council) are required to complete the following components in Year 1:

<table>
<thead>
<tr>
<th>S/No</th>
<th>Components</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Clinical Awareness Attachment (two weeks)</td>
<td>By end of first semester from enrolment</td>
</tr>
<tr>
<td>2</td>
<td>Two four-month Laboratory Rotations</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Confirmation on Supervisors and Research Topic</td>
<td>By end of the eighth month from enrolment</td>
</tr>
<tr>
<td>4</td>
<td>Formation of Thesis Advisory Committee (TAC)</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Two Core Courses (6 AUs)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>i. MD9001 The Ethics and Practice of Research, and</td>
<td></td>
</tr>
<tr>
<td></td>
<td>ii. Another course related to research topic</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Two Elective Courses (6 AUs)</td>
<td>By end of Year 1</td>
</tr>
<tr>
<td>7</td>
<td>HWG702 University Teaching for Teaching Assistants</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>HWG703 Graduate English (if applicable)</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>ERI701: Epigeum Research Integrity Course (ERIC) by first semester</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Online Collaborative Institutional Training Initiative (CITI) Courses on Research Ethics</td>
<td></td>
</tr>
<tr>
<td>S/No</td>
<td>Components</td>
<td>Timeline</td>
</tr>
<tr>
<td>------</td>
<td>---------------------------------------------------------------------------</td>
<td>------------------------</td>
</tr>
<tr>
<td>11</td>
<td>Global Health Awareness Attachment (up to two weeks)</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>TAC Meeting</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Information Research and Management Workshop</td>
<td></td>
</tr>
<tr>
<td>14</td>
<td>Attendance at Research Seminars (at least 10)</td>
<td></td>
</tr>
<tr>
<td>15</td>
<td>Graduate Assistantship Programme / Teaching Assistant Assignment</td>
<td>Years 1-4</td>
</tr>
</tbody>
</table>

**Year 2 and Year 3**

**Clinician and non-clinician students/candidates** are required to complete the following components:

<table>
<thead>
<tr>
<th>S/N</th>
<th>Components</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Qualifying Examination (QE)</td>
<td>Within 12-18 months from enrolment</td>
</tr>
<tr>
<td>2</td>
<td>Commence Main Research Project in Selected Pathway</td>
<td>Commence in Year 2</td>
</tr>
<tr>
<td>3</td>
<td>Research Communication for Graduate Studies (after QE)</td>
<td>By end of Year 2</td>
</tr>
<tr>
<td>4</td>
<td>TAC Meeting</td>
<td>By end of each year</td>
</tr>
<tr>
<td>5</td>
<td>Attendance at Research Seminars (at least 10)</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Graduate Assistantship Programme / Teaching Assistant Assignment</td>
<td>Years 1-4</td>
</tr>
</tbody>
</table>

**Year 4**

**Clinician and Non-Clinician candidates** are required to complete the following components in Year 4:

<table>
<thead>
<tr>
<th>S/N</th>
<th>Components</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Graduate Assistantship Programme / Teaching Assistant Assignment</td>
<td>Years 1-4</td>
</tr>
<tr>
<td>2</td>
<td>TAC Meeting</td>
<td>By end of Year 4</td>
</tr>
<tr>
<td>3</td>
<td>Attendance at Research Seminars (at least 10)</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Thesis Submission</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Viva Voce Examination</td>
<td>After examination of thesis</td>
</tr>
</tbody>
</table>
Coursework Requirements

All students are required to undertake two core courses and two elective courses, making up a total of 12 Academic Units (AUs) within the first year of candidature. Each course carries three AUs. One AU is equivalent to 13 teaching hours.

Clinician students are to undertake MD9001 The Ethics and Practice of Research and MD9101 Biostatistical Methods and Basic Epidemiology as core courses.

Non-clinician students are to undertake MD9001 The Ethics and Practice of Research as a core and another core relevant to the student's area of research, in consultation with her/his supervisor.
### Courses Offered to LKCMedicine PhD Students

<table>
<thead>
<tr>
<th>S/No</th>
<th>Type</th>
<th>Course Code and Title</th>
<th>Semester</th>
<th>Course Lead</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Core</td>
<td>MD9001 The Ethics &amp; Practice of Research</td>
<td>1 &amp; 2</td>
<td>Assoc Prof Eric Yap</td>
</tr>
<tr>
<td>2</td>
<td>Core</td>
<td>BS7107 Computational Biology and Modelling</td>
<td>2</td>
<td>Assoc Prof Mu Yuguang, School of Biological Sciences (SBS)</td>
</tr>
<tr>
<td>3</td>
<td>Core / Elective</td>
<td>MD9101 Biostatistical Methods &amp; Basic Epidemiology</td>
<td>2</td>
<td>Assoc Prof Josip Car</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>MD9104 Introduction to Neuroscience: Cellular and Molecular Neuroscience</td>
<td>1</td>
<td>Prof George Augustine</td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>MD9105 Systematic Reviews and Evidence Synthesis</td>
<td>1</td>
<td>Asst Prof Lorainne Car</td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>MD9107 Latest Development in Infectious Disease Research</td>
<td>2</td>
<td>Assoc Prof Kevin Pethe</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>MD9110 Advanced Genetics in Diseases, Ageing &amp; Cancer</td>
<td>1</td>
<td>Prof Dean Nizetic and Asst Prof Foo Jia Nee</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>MD9111 Development, Stem Cell Biology and Regenerative Medicine</td>
<td>1</td>
<td>Prof Philip Ingham and Asst Prof Xia Yun</td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>MD9102 Bio-Entrepreneurship</td>
<td>1</td>
<td>Asst Prof Navin Kumar</td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>MD9103 Biological Imaging</td>
<td>1 &amp; 2</td>
<td>Prof David Becker</td>
</tr>
<tr>
<td>11</td>
<td></td>
<td>MD9106 Emerging Omics Technologies for Systems Biology &amp; Personalised Medicine</td>
<td>1</td>
<td>Asst Prof Guan Xue Li</td>
</tr>
<tr>
<td>12</td>
<td></td>
<td>MD9108 Neural Systems and Behaviour</td>
<td>2</td>
<td>Prof George Augustine</td>
</tr>
<tr>
<td>13</td>
<td>Elective</td>
<td>MD9109 Professional Skills for Researchers</td>
<td>1</td>
<td>Asst Professor Christine Cheung</td>
</tr>
<tr>
<td>14</td>
<td></td>
<td>BS7001 Foundation Course in Molecular &amp; Cell Biology</td>
<td>2</td>
<td>Dr Sze Chun Chau, School of Biological Sciences (SBS)</td>
</tr>
<tr>
<td>15</td>
<td></td>
<td>CH7102 Cell Therapeutics Engineering</td>
<td>2</td>
<td>Assoc Prof Chew Sing Yian, School of Chemical and Biomedical Engineering (SCBE)</td>
</tr>
<tr>
<td>S/No</td>
<td>Type</td>
<td>Course Code and Title</td>
<td>Semester</td>
<td>Course Lead</td>
</tr>
<tr>
<td>------</td>
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<td>---------------------------------------------------</td>
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<td>-------------------------------------------------</td>
</tr>
<tr>
<td>16</td>
<td>NTU Compulsory Courses</td>
<td>ERI701: Epigeum Research Integrity Course (ERIC)</td>
<td>1 &amp; 2</td>
<td>Research Integrity and Ethics Office (RIEO)</td>
</tr>
<tr>
<td>17</td>
<td></td>
<td>HWG702 University Teaching for Teaching Assistants</td>
<td>1 &amp; 2</td>
<td>Teaching, Learning and Pedagogy Division (TLPD)</td>
</tr>
<tr>
<td>18</td>
<td></td>
<td>HWG703 Graduate English</td>
<td>1 &amp; 2</td>
<td>Language &amp; Communication Centre (LCC)</td>
</tr>
<tr>
<td>19</td>
<td>LKCMedicine Compulsory Course</td>
<td>HWG707 Communicating Research in the Medical Sciences</td>
<td>2</td>
<td>Language &amp; Communication Centre (LCC)</td>
</tr>
</tbody>
</table>

**Brief Introduction of the Courses:**

**Courses Available as Core**

1. **MD9001 The Ethics & Practice of Research**

This course aims to introduce fundamental issues in the fields of history and philosophy of science and practical ethics. It enables students to critically evaluate key arguments in these fields. This module examines the fundamental issues of scientific research. Designed as a core course for PhD students with or without training in critical thinking. It aims to provide young researchers a general grasp of foundation of science from a range of theories and case studies. In addition, it offers an opportunity for students to reflect upon their own roles in a team work or a research project before they enter a laboratory. Students will discern the motivation and objectives of scientific research. Eventually, they will be able to distinguish good and bad scientific practices and the philosophical concerns in lieu of or against them.

- Philosophy of Knowledge and Scientific Revolution
- Science in Society
- Sampling methods & sample size calculation
- The loss of knowledge in the information age
- Research Application and Commercialisation
- Research Involving Animal Subjects
- Research Involving Human Subjects I
- Research Involving Human Subjects II
- Responsible Conduct in Research
- Writing Workshop of Research Proposal for IRB and IAACUC
- Ethics in Practice
- Panel Discussion and Debate
- Student-led Seminar presentations
2. BS7107 Computational Biology & Modelling
In this course, basic ideas for understanding biological phenomena using principles from underlying physical and chemical foundations used in computer modelling approaches are introduced. Emphasis will be on how these computational tools are applied to biological areas such as protein folding, membrane fusion, enzyme activity, drug-target interaction. These methods are illustrated with modern computer-based laboratory practicals with graphical display of biological molecules. A variety of computational methods and modeling strategies are introduced, such as classical force field based on quantum theory and coarse grained models. Basic sampling techniques, such as Monte Carlo, molecular dynamics and Langevin dynamics simulation will be described.

Courses Available as Core or Elective

3. MD9101 Biostatistical Methods & Basic Epidemiology
This course will provide students with a strong understanding of the basic principles and measures used in epidemiology. The course will cover the fundamental concepts and statistics in epidemiology including important topics such as causality and disease surveillance. Real-world cases and data will be used to illustrate key principles, concepts, and techniques.

• Exploring data
• Measuring health & disease
• Sampling methods & sample size calculation
• Statistical estimation and hypothesis testing I (parametric methods)
• Testing of hypothesis- II (non-parametric methods), and correlation analysis
• Introduction to regression analysis (linear, logistic and survival regression)
• Epidemiological study designs
• Communicable and chronic non-communicable diseases, and preventive epidemiology
• Clinical epidemiology and health services research
• Epidemiology in health policy & planning

4. MD9104 Introduction to Neuroscience - Cellular and Molecular Neuroscience
A general introduction into the concepts, principles and technologies of contemporary cellular and molecular neuroscience. This course is a core course and is intended to be the first part of a two-course introduction to neuroscience. It will be offered in Semester 1; the second course, MD9108, will be offered as an elective in Semester 2 and will focus on systems neuroscience.

5. MD9105 Systematic Reviews and Evidence Synthesis
This course will take a blended learning approach and consists of lectures, small group working sessions and focused discussions. Its aim is to provide knowledge and skills needed to perform a systematic review.

The skills gained though this course will also prove to be useful when undertaking research other than systematic reviews, e.g., developing an answerable research question, knowing what information sources are available and how to search them or understanding the principles of research quality assessment and reporting.
6. MD9107 Latest Development in Infectious Disease Research
This course is intended to students interested in the latest development in infectious diseases research. Learning objectives: critical assessment and debate on cutting-edge articles; analyse diagnostic approaches and new therapeutic strategies for viral, bacterial and fungal infections; discuss the global danger and challenges of antimicrobial resistance; discuss and propose solutions for current global health challenges in communicable diseases; develop and defend research global health challenges; analyse the clinical relevance of microbiomes and redefine the Koch postulates.

A project-based learning approach will be followed that includes team-based analysis of cutting-edge papers; team-based development and defence of solutions for medically relevant problems; elaboration and presentation of research proposals to solve global health issues.

- Infectious Arboviruses: research towards a cure
- New drug development for tuberculosis: progresses and application to other bacterial infections
- Emerging superbugs in Asia
- Fungal Infections (aspergillus, candida)
- New approaches to viral and bacterial diagnosis
- The microbiome as a source of infectious diseases: redefining the Koch postulates
- Vaccines/host-directed therapies
- Alternative to antibiotics for controlling bacterial infection
- Regional field research on neglected tropical diseases
- Infectious Disease in the Clinical Setting

7. MD9110 Advanced Genetics in Diseases, Ageing & Cancer
The main aim of this course is to explain the key principles of human genetics, ageing and cancer genetics to the graduate student, and to introduce the fundamental concepts underlying existing methods in the field of genetics and genomics. This module will make them better prepared to contribute to the research and development of this trend, as well as research in other basic science and biomedical applications in general.

The course will consist of 3 main blocks:
(i) Germline Genetic Variants in Human Diseases: Single-gene disorders, complex genetic disorders, population genetics, aneuploidies, GWAS, prenatal diagnostics
(ii) Somatic and Epigenetic changes in Ageing and Cancer: Somatic gene changes, epigenetics, DNA damage-repair, ageing genome, cancer genetics
(iii) Genetic Modelling and Understanding Human Diseases: Disease modelling, genome editing, ethics

8. MD9111 Development, Stem Cell Biology and Regenerative Medicine
The course comprises a series of lectures covering the latest topics in development, iPSC reprogramming and stem cell lineage commitment, the state-of-art organoid technology, and stem cell-based approach in disease modeling and tissue/cell replacement therapy. In addition to the lectures, students will have a chance to perform integration-free iPSC reprogramming in hands-on sessions that run in parallel with the lectures.
The lecture series consist of 13 three-hour sessions divided into four main blocks:
(1) Defining cell fate - study embryonic development using different model systems
(2) Re-defining cell fate - iPSC reprogramming and stem cell fate determination
(3) Application of stem cell technologies in regenerative medicine
(4) In parallel with the lecture series, the students will perform iPSC reprogramming hands-on session.

The students will be given one topic to write a mini project proposal (including: aims, rationale, experimental approaches, expected outcomes and discussion in not more than 2000 words).

Each student will select a specific research topic to prepare and deliver a 12+3 min presentation of the project proposal to their classmates and a panel of teachers. The presentations will take place in the last three lectures consecutively.

Courses Available as Elective

9. MD9102 Bio-Entrepreneurship
Started in 2016, LKCMedicine’s 13-week Team-Based Learning Bio-Entrepreneurship course provides post-graduate students with an understanding of the entire drug discovery and development process starting from basic and translational research to creating viable partnerships with BioPharma companies or establishing Spin-Offs.

The course is open to students from diverse backgrounds ranging from medicine, life sciences and engineering to humanities and social sciences.

To understand biotech investing, each student will be assigned virtual USD 500,000. Each student will use online analytic tools (e.g. Morningstar) to evaluate BioPharma companies from a list we provide, and then use the USD 500K to create an investment portfolio. Students will track their portfolio during the course, buying and selling shares on a weekly basis. Students with the top three most productive portfolios will receive prizes.

10. MD9103 Biological Imaging
This course will provide introduction to optical microscopy, as well as the wide variety of non-optical imaging modalities in use in modern laboratories.

Developments in Physics, including the description of light in terms of its quantal properties led to new microscopy techniques based on fluorescence phenomena. Further progress led to new ways for studying matter and for imaging: Positron Emission Tomography and X-ray imaging. Developments in spectroscopy using X-rays or Nuclear Magnetic Resonance also provide new high resolution techniques for imaging, such as Functional Magnetic Resonance Imaging (fMRI). Some scientific applications of the medical imaging techniques like fMRI, X-ray, CT-scans, PET and ultrasound, will be discussed. Students will be acquainted with the most prominent modern imaging techniques, such as confocal, fluorescence, NMR/MRI, PET and X-rays. The students will have a chance to expose to various imaging techniques during the theoretical and practical sessions.
The course might evoke a passion for imaging among students or prepare them for the laboratory by giving them a grounding in the principles, concepts, applications and language of Biological Imaging.

11. MD9106 Emerging Omics Technologies for Systems Biology & Personalised Medicine

All biological organisms, whether prokaryotes or the human body comprise a highly complex system of networks that are tightly regulated to maintain physiological and biochemical health. Factors contributing to this complexity are inter-individual differences of genetics and epigenetics, the microbiomes, as well as the external environment. Understanding how these complex networks are controlled is the goal of systems biology, and elucidation of individual variation and pathogenic perturbations could lead to personalised medicine.

Advances in technologies that enable systems-scale analyses of biomolecules, from genes, to proteins and metabolites (omics) as well as big-data biocomputational approaches and tools have allowed us to derive novel insights into biological networks, leading to identification of alternative therapeutic approaches or biomarkers for a wide range of human diseases.

12. MD9108 Neural Systems and Behaviour

This course is offered as a follow-up elective course to MD9104 with effect from Semester 2, AY2017-18. Students are encouraged to first take MD9104 but this is not a prerequisite.

For students whose research interest is in neural systems and behaviour, they are encouraged to take both courses.

The course aims to give students an introduction to systems neuroscience, including sensory and motor systems, behaviour, memory and cognition. Students will understand conceptual foundations of systems neuroscience via textbook readings, lectures, class discussions and in-depth analysis of important research papers in the field.

- Somatosensory System and Pain
- Visual System
- Auditory and Vestibular Systems
- Motor Neuron Circuits and Motor Control
- Modulation of Movement: Basal Ganglia and Cerebellum
- Eye Movements and Sensory-Motor Integration
- Brain Plasticity
- The Association Cortices
- Language and Speech
- Sleep and Wakefulness
- Emotions
- Sex, Sexuality, and the Brain
- Memory
13. MD9109 Professional Skills for Researchers
This course aims to enhance personal and career development of graduate students. Our syllabus is designed on the backdrop of the Vitae Researcher Development Framework which defines the knowledge, behaviour and attributes of successful scientists. Through a series of individual and team-based activities, students will learn soft skills such as leadership and people management, creative problem solving, and effective communication for science outreach. Using their own PhD projects as the foundation, students will get practice on project planning, research commercialisation strategy, thesis writing and publishing research. In making informed career choices, we also provide training on resume preparation and understanding both research and non-research roles in different work settings.

14. BS7001 Foundation course in Molecular & Cell Biology
The aim of this course is to ensure graduate students have fundamental knowledge on topics of molecular and cell biology. Topics covered include: molecular and cellular mechanisms, genomic manipulations, control of gene expression, molecular immunology, virology, cancer biology, and hereditary diseases.

15. CH7102 Cell Therapeutics Engineering
This course introduces students to Tissue Engineering, and covers topics on Tissue Engineering fundamentals, practical Tissue Engineering and case studies. It also provides a forum for discussion on papers in literature and current issues in Tissue Engineering. The objective of this course is to provide students with a good foundation upon which cell and tissue-based therapy can be explored.

Compulsory Non-AU Courses

16. ERI701: Epigeum Research Integrity Course (ERIC)
ERI701 Epigeum Research Integrity Course (ERIC) is a research integrity course with 0 AUs that is applicable to new PhD students who join NTU from AY2018/19.

Students would be auto-enrolled into the course by Office of Academic Services, NTU. Access to the course is via NTULearn, and as an LKCMedicine PhD student, you are to choose Track 1 - Biomedical Sciences, among the Track options.

ERIC has to be completed by first semester, i.e. 15 November 2019, failing which student will be assigned an “F” grade which is reflected in transcript. Students who fail will be auto-enrolled in Semester 2, 13 January 2020.

ERIC certification is valid for three years, after which ERIC-Concise is needed. (Details available at a later date). Details on ERIC can be found in Annex A. An proctored examination would be conducted for all students at the end of the quiz. More details would be provided to you during the semester.
17. HWG703 Graduate English
The course aims to help graduate students develop their written and oral communication skills in English in academic settings.

Participants will learn to:
- prepare an academic paper for possible publication;
- plan an oral presentation; to develop their skill in explaining concepts in their areas of specialisation; and
- respond critically, but constructively, to presentations.

HWG703 is a pass/fail course. It consists of 12 two-hour tutorials. Students who are required to take HWG703 need to pass the course before they can enrol for HWG702 (Teaching Assistant Programme).

18. HWG702 Teaching Assistant Programme
Offered by the Teaching, Learning and Pedagogy Division (TLPD) at NTU, the University Teaching for Teaching Assistants programme provides Teaching Assistants with a framework for understanding how university students learn so that Teaching Assistants can develop an approach to university teaching.

The programme covers the principles of university teaching (including a micro-teaching session), development of skills learners need for effective learning, effective use of educational technology and learner-centred teaching practice.

By the end of the programme, the student will be able to:
- Apply principles of learner-centred learning in your area of discipline
- Plan appropriate learning outcomes for each teaching session
- Identify appropriate learning activities for learners
- Develop blended learning strategies using tools available at NTU
- Identify strategies for giving learners’ feedbacks
- Communicate with confidence in classroom

Candidates need to satisfy the requirement for HWG702 Teaching Assistant Programme before they are allowed to assume teaching duties.

19. HWG707 Communicating Research in the Medical Sciences
This 39-hour course sets out to improve the productive (speaking and writing) skills of students with particular reference to writing their PhD theses and making research presentations in English. Two broad subsidiary aims are to increase students' confidence in the use of academic English, and to provide them with the tools and resources for continued self-study and enhancement of their abilities. The course is thematically ordered in its treatment of research writing and spoken presentations. Students will also have the opportunity to practise writing different parts of their thesis (e.g. introduction, literature review, methodology, results and discussion, conclusion and abstract) and presenting their work to their peers through informal and formal research presentations. As a course assignment, students will write their own specimen thesis introduction and literature review, relevant to their own field of academic communication. Where appropriate and relevant, this may take the form of a 'confirmation report', for PhD students in particular.
Upon successful completion of this course, the students will be able to:

(i) Understand formal documentation standards relevant to their discipline,
(ii) Recognise and apply patterns of research argumentation appropriate to their field,
(iii) Give spoken presentations in English to academic audiences on their research topics, and
(iv) Participate actively and meaningfully in seminar and workshop settings.

Student assessment

There is no end-of-semester examination for this course, and continuous assessment will be used for student evaluation instead. This mode of assessment is particularly suited for communication courses as it takes into consideration the development of students’ skills in written and oral communication through the semester. Students will be assessed based on individual written assignments (60%), presentations (20%), and class participation (20%).

20%: Oral presentations - Students will make individual presentations on their own areas of scientific research.

20%: Class participation - The tutorials will be conducted as small-class workshops (15 students) focusing on written and oral communication skills. To encourage students to participate actively in tutorials, they will be evaluated for the quality and quantity of their contributions to classroom tasks.

60%: Written assignments - Students will be required to complete a thesis introduction by the end of the course, in the correct academic form, including a short literature review, rationale for research, description of research issues, significance of research and appropriate references.

Course Exemption

For AU-bearing Courses
Students may apply to the School to be exempted from ONE core/elective course only if they have:

• taken the same course at Master’s level;
• attained at least a B-grade and equivalent number of AU for the course taken; and
• completed other three graded courses with a minimum Cumulative Grade Point Average (CGPA) of 3.5

To apply for course exemption, please complete the “Research Student's Application Form for Course Exemption" provided in Annex B and submit to the Graduate Programmes team together with the supporting documents. Application for course exemption is subject to approval from the School and NTU.
Note to NHG Clinicians:

Residents and Associate Consultants (ACs) who have completed the NHG Clinician-Scientist Preparatory Programme (CSPP) would be offered the following options of course exemption:

1) one core and one elective course or,
2) two electives

In choosing CSPP exemption of one core and one elective course, the clinician would still have to attend the first three classes of PhD course, MD9001, “The Ethics and Practice of Research” (with no assessment). This is to ensure the clinician does not miss out areas in MD9001 that are not covered by CSPP. If the clinician chooses CSPP exemption of two electives, s/he would have to undertake PhD courses, MD9001 and MD9101 Biostatistics and Basic Epidemiology as two compulsory core courses in the LKCMedicine PhD programme.

To apply for course exemption, please complete the “Research Student's Application Form for Course Exemption” provided in Annex B, together with a certifying letter on CSPP completion, and submit to the Graduate Programmes team.

For Non-AU-bearing Courses

HWG702 Teaching Assistant Programme

As this is a formal course on higher education pedagogy, previous teaching experience alone is not regarded as sufficient ground for exemption.

Exemptions will only be considered for HWG702 on the following grounds:

- Where the student can furnish documentary evidence that s/he has successfully completed an equivalent course in university teaching at another university or equivalent institution.

- Where the student can furnish documentary evidence that s/he has completed other courses that involve pedagogical training (such as from a recognised Institute of Education). This may include diplomas, masters, or other degrees specifically in education. Notwithstanding the completion of pedagogical training from a recognised institution, each application for exemption will still be assessed to ascertain that the qualification is current and relevant to teaching and learning at higher education.

All clinician students are exempted from the course. To seek exemption, non-clinician students are to submit the exemption request form found in Annex C to Teaching and Learning Pedagogy Division via the Graduate Programmes team before the end of the Course Registration Period. Students would be required to register for the course themselves via NTULearn, https://ntulearn.ntu.edu.sg/
HWG703 Graduate English

Students who meet any ONE of the criteria listed below can be exempted from the English proficiency course. Please inform the Graduate Programmes team if you meet any of the criteria. The Graduate Programmes team assists in processing the exemption of the course. You will be asked to register for the course if you are not eligible for exemption.

1. **Previous Full-Time Study in English**
   A three-year degree from an institution where English is the medium of instruction and the dissertation or final year report was written in English.

2. **Graduate Record Examinations (GRE)**

<table>
<thead>
<tr>
<th>Old GRE version, taken before Aug 2011</th>
<th>Obtained at least 600 in the Verbal Reasoning section, OR Obtained at least 4 in the Analytical writing section</th>
</tr>
</thead>
<tbody>
<tr>
<td>Revised GRE version, taken after Aug 2011</td>
<td>Obtained at least 160 in the Verbal Reasoning section, OR Obtained at least 4 in the Analytical writing section</td>
</tr>
</tbody>
</table>

3. **Graduate Management Admission Test (GMAT)**
   Obtained a total score of 650 in Verbal and Quantitative sections.

   *Note: Only GRE and GMAT scores obtained within five (5) years prior to enrolment will be considered.*

4. **Test of English as a Foreign Language (TOEFL)**
   - PBT: 600 AND Essay rating 4, or
   - IBT: 100 with a minimum score of 23 for Writing

5. **International English Language Testing System (IELTS)**
   - Achieved Band 6.5 for the Writing sub-test, and
   - Band 6.0 for the Speaking sub-test

   *Note: Only TOEFL and IELTS scores obtained within two years prior to enrolment will be considered.*

HWG707 Communicating Research in the Medical Sciences

Exemptions will only be considered for HWG707 on the following grounds:
- Have attended similar courses or have published journal papers in their field.

Students who meet the criteria above can be exempted from the Communicating Research in the Medical Sciences course. Please inform the Graduate Programmes team if you meet the criteria. The form to seek exemption is found on Annex D. The Graduate Programmes team will assist in processing the exemption of the course. You will be asked to register for the course if you are not eligible for exemption.
Course Registration

There are two Registration Periods, i.e., Registration Periods 1 and 2 in each semester.

All registration and add/drop of courses must be completed within the stipulated period, after which students will not be allowed to add/drop any courses.

Priority is given to students registering courses offered by their own programme of study.

PhD students are allowed to register up to 15 AUs (five courses) per term of study.

Students who fail to register a course and yet proceed to attend classes in that course will not be allowed to take the examination in that course, or no grade will be awarded to that course if it is one that has no formal examination.

Students with outstanding fees will not be allowed to register for courses.

All enquires pertaining to outstanding fees should be addressed to NSS, Finance [contact number: (65) 6790 4616]

Before Registering for Courses

Students are required to refer to Graduate Course Registration System on GSLink for the class timetable when selecting courses to avoid any clashes in your classes. To access GSLink, go to www.ntu.edu.sg > Login > GSLink.

The University reserves the right to withdraw or change the class timetable of any course listed in the class timetable.

Classes may be rescheduled, cancelled due to unforeseen circumstances or low demand. Students enrolled in a cancelled class will be notified through email.

How to Register for Courses

All students are to register for the course(s) they wish to study via the Graduate Course Registration System on GSLink.

It is the responsibility of students to check and ensure that their courses are correctly registered via the Graduate Course Registration System.

Students are reminded to check their student email account and GSLink regularly as important messages regarding registration of courses or changes to the timetable will be conveyed to them through the system.

New matriculated students may access e-services such as Graduate Course Registration System when term commences. Students may also check the courses which their School may have registered for them.
For information or assistance on NTULearn (NTU's e-learning platform), please refer to https://ntulearn.ntu.edu.sg/ or email NSS Service Desk at servicedesk@ntu.edu.sg.

Registration Periods

Registration Period 1 takes place before the commencement of each semester. All existing students must register for courses that they will be reading in the semester unless they have been granted leave of absence by the University.

Registration Period 2 takes place after the commencement of each semester. All existing students and new students must register for courses that they will be reading in the semester.

Remaining vacancies for courses will be available to all existing and new students during Registration Period 2. Existing students who miss Registration Period 1 may register during Registration Period 2.

<table>
<thead>
<tr>
<th>Semester</th>
<th>Registration Period</th>
<th>Opening Date &amp; Time</th>
<th>Closing Date &amp; Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1, AY2019-20</td>
<td>Period 1</td>
<td>01 July 2019 (Monday), 1100hrs</td>
<td>03 July 2019 (Wednesday), 1700hrs</td>
</tr>
<tr>
<td></td>
<td>Period 2</td>
<td>13 August 2019 (Tuesday), 1100hrs</td>
<td>21 August 2019 (Wednesday), 2359hrs</td>
</tr>
</tbody>
</table>

Note:
1. You can log in to GSLink to check your registered courses from 24 August 2019. If you are not successful in registering for any of your classes, you may try again in Semester 2.

Registration for Cross-School/Cross-Programme Courses
(Courses NOT offered to student's programme of study)

<table>
<thead>
<tr>
<th>Semester</th>
<th>Registration Period</th>
<th>Opening Date &amp; Time</th>
<th>Closing Date &amp; Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Semester 1, AY2019-20</td>
<td>Period 1</td>
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<td>03 July 2019 (Wednesday), 1700hrs</td>
</tr>
<tr>
<td></td>
<td>Period 2</td>
<td>13 August 2019 (Tuesday), 1100hrs</td>
<td>21 August 2019 (Wednesday), 2359hrs</td>
</tr>
</tbody>
</table>

Students can register courses offered by other schools in NTU via the Graduate Course Registration System by the stipulated deadline.
Withdrawal of Registered Courses

- Withdrawal of course without penalty: A course dropped within the registration period will not appear in the result slip and official transcript.

- Withdrawal of course with "W" Grade: For a course that is dropped after the registration period, a “W” grade will be indicated in the transcript.

  "W" grade is not a fail grade, it is an indication that the course is dropped after choosing it.

- Withdrawal of course with "F" Grade: For a course that is dropped after registration period, the student will be deemed to have sat and failed the course and a grade 'F' will be reflected in her/his result slip and official transcript.

Examination

Instructions

Students are responsible for understanding and complying with the University policies and procedures pertaining to examination matters.

All candidates must follow these instructions conscientiously. You will be dealt with by the Board of Discipline for any breach of regulations.

Absence

Attention is drawn to the following regulation relating to absence from any examinations:

"A student who does not register or who, having registered, fails to take any examination for which he is eligible to sit, shall be deemed to have sat and failed the examination unless the Board of Examiners is satisfied that there is good and sufficient reason for such failure to register or take the examination."

If you are not able to take an exam and would like the Board of Examiners to give special consideration, then you have to write in to appeal within two working days of absence from the examination. Supporting documents are important as it will help you in the Board's decision-making. Late submission will not be considered.

Example: If you are to be sent overseas by your company, then you have to submit an appeal letter, together with your company's letter certifying your period of absence and a photocopy of your air-ticket or e-ticket.

Illness

A candidate who is absent from an examination for a degree, on account of illness, may be permitted to appear for the examination at the next period of the examination on the condition that:
The candidate has been examined by a registered medical practitioner (registered with the Singapore Medical Council) and a medical report (see Annex E) attached with the original medical certificate be submitted to the Office of Academic Services within two days of the date of absence from the examination.

The medical certificate should cover the period of absence from examination.

The medical report form is available at GSLink-Academic-Examination-Request for Medical Report Form. Candidates are responsible to provide the form to their attending doctor.

Any fee payable for the medical examination under the above regulation shall be paid by the candidate. Late submission will not be considered.

**Outstanding Fees**
Attention is drawn to the following examination regulation relating to outstanding fees:

"You may be barred from an examination or have the results of any examination or a course withheld if you are in debt to the University (other than as a result of a loan made by the University). Please approach your School for assistance should you face any difficulty. Otherwise, you may settle your outstanding fees at One Stop@SAC."

**Cheating**
A candidate who is caught cheating in examinations is liable to be expelled from the University.

The University takes a serious view of cheating in examination. All students are to take note of the written examination instructions issued to them as well as the announcement made by the Chief Invigilator during examination.

**Check Tentative Release Dates of Exam Results**

Students are informed through their NTU email account once the results are released.

Students are to print the result slip online via GSLink.

**Request for Review of Results**

If you wish to request a review of your results, please submit your request online via GSLink. The charge for each course to be reviewed is S$10.70 (inclusive of GST) and is not refundable.

Any appeal for review of examination results received after the stipulated deadline will not be processed and the payment made (if any) will not be refunded. All payments for appeals must be made within the closing date. Please use the online form “Request for Review of Result”. Once the outcome of your appeal for review of examination results is known, you will be notified via email.
Appeal against Outcome of Review

Students who are dissatisfied with the outcome of the review of their examination results may appeal to the Academic Appeal Board at the University level if you have sufficient grounds for appeal. For more information on the appeal process, please visit www.ntu.edu.sg/sasd/oas/Pages/Academic-Appeal.aspx

Grade Point Average (GPA)

Definition of Grade Point Average

1. Term Grade Point Average (TGPA)

TGPA represents the grade point average of all courses attempted by a student in any term of study.

\[
TGPA = \frac{\text{SUM of (Grade Point x AU * for course attempted in the term)}}{\text{Total AU * attempted in the term of study}}
\]

Term refers to semester in the programme.

2. Cumulative Grade Point Average (CGPA)

CGPA represents the grade point average of all courses attempted by a student.

\[
CGPA = \frac{\text{SUM of (Grade Point x AU * for course attempted to date)}}{\text{Total AU * attempted to date}}
\]

*AU = Academic Unit: Each course is assigned a certain number of AU. It is a measure of the student’s workload associated with both class attendance and preparation.

The TPGA and CGPA will be reflected in the student’s transcript of academic records.
Grading and Calculations for Grade Point Average

1. Grades With Grade Point

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Point</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5.00</td>
</tr>
<tr>
<td>A</td>
<td>5.00</td>
</tr>
<tr>
<td>A-</td>
<td>4.50</td>
</tr>
<tr>
<td>B+</td>
<td>4.00</td>
</tr>
<tr>
<td>B</td>
<td>3.50</td>
</tr>
<tr>
<td>B-</td>
<td>3.00</td>
</tr>
<tr>
<td>C+</td>
<td>2.50</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
</tr>
<tr>
<td>D+</td>
<td>1.50</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
</tr>
</tbody>
</table>

2. Notations Without Grade Points

The following notations will also be used in the academic records. They have no assigned grade point and thus will be not be counted in the calculation of TGPA or CGPA.

* - Course with Pass/Fail grading only
AT - By attendance only
IP - In Progress
W - Withdrawal
X - Absent

3. Course Exemption and Transfer of Credits

Courses that are exempted and courses with approval to transfer credits will not be counted in the calculation of TGPA or CGPA. However, they will be counted towards the AU requirement for graduation, and reflected in the transcript.

4. Fail Grade

A Fail (F) grade obtained in a course, and a new grade attained for any subsequent repeat, will be counted in the calculation of TGPA and CGPA. The grades for all attempts will be reflected in the transcript.

Graduation Requirements and Academic Performance for Students in Research Programme

1. Graduation Requirements

For graduation, a research student has to fulfil the following conditions:

i. Successful completion of all requirements as prescribed by the programme of study or School; and
ii. After completion of all course requirements, a minimum CGPA of 3.50 must be attained.
2. **Satisfactory Academic Performance**
   In any term of study, a research student is considered to be making satisfactory progress if s/he satisfies the following conditions:

   i. Attain a minimum TGPA of 3.50; and
   ii. Attain at least Grade Point 2.50 (grade C+) in every course; and
   iii. Complete all course requirements within the confirmation period as prescribed under Qualifying Examination

3. **Poor Academic Performance**
   A research student with poor academic performance will be subjected to the following actions:

<table>
<thead>
<tr>
<th>Academic Warning</th>
<th>Termination of Financial Aid and/or Candidature</th>
</tr>
</thead>
<tbody>
<tr>
<td>i. TGPA &lt; 3.50 in any term of study of study; or</td>
<td>i. Fail to complete all course requirements within one year; or</td>
</tr>
<tr>
<td>ii. Any course with Grade Point less than 2.50 (below C+)</td>
<td>ii. TGPA &lt; 2.50 in two consecutive terms; or</td>
</tr>
<tr>
<td></td>
<td>iii. TGPA &lt; 3.00 in three consecutive terms.</td>
</tr>
</tbody>
</table>

**Lab Rotations**

*(Only applicable to non-clinician students)*

The purpose of the lab rotation is to provide exposure for non-clinician students to a range of different research themes available in LKCMedicine. The lab rotation is not meant for you to explore switching to a different research project/lab.

All non-clinician students are required to fulfil two four-month lab rotations. The lab rotations have to be conducted over two different research themes within LKCMedicine. The first lab rotation refers to the lab and PI whom you have indicated in your PhD programme application. The second lab rotation is to be decided after you have consulted your PI (of the first lab rotation).

The research themes that you can choose from include: **Metabolic Disorders, Infection and Immunity, Neuroscience and Mental Health, and Dermatology and Skin Biology**.

You are required to nominate a primary supervisor and co-supervisor for the first lab rotation and a supervisor for the second lab rotation.
The list of LKCMedicine faculty (with their associated area of research focus) whom you can engage as the primary supervisor and co-supervisor are as follows:

<table>
<thead>
<tr>
<th>Research Theme</th>
<th>Faculty</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cross Cutting Research</td>
<td>Prof Philip Ingham</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Joanne Ngeow</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Xia Yun</td>
</tr>
<tr>
<td>Dermatology and Skin Biology</td>
<td>Prof David Becker</td>
</tr>
<tr>
<td></td>
<td>Prof Maurice van Steensel</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Andrew Tan Nguan Soon</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Tom Carney</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Woo Wei Meng</td>
</tr>
<tr>
<td>Family Medicine and Primary Care</td>
<td>Prof Helen Smith</td>
</tr>
<tr>
<td>Health Systems and Population Health</td>
<td>Prof John Chambers</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Josip Car</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Konstadina Griva</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Lorainne Tudor Car</td>
</tr>
<tr>
<td>Infection and Immunity</td>
<td>Prof George Chandy</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Kevin Pethe</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Eric Yap Peng Huat</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Yeo Tsin Wen</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Sanjay Chotirmall</td>
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<tr>
<td></td>
<td>Asst Prof Guan Xue Li</td>
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<tr>
<td></td>
<td>Asst Prof Luo Dahai</td>
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<tr>
<td></td>
<td>Asst Prof Navin Verma</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Christine Wong Siu Ling</td>
</tr>
<tr>
<td>Medical Education</td>
<td>Asst Prof Jerome Rotgans</td>
</tr>
<tr>
<td>Metabolic Disorders</td>
<td>Prof Bernhard Boehm</td>
</tr>
<tr>
<td></td>
<td>Prof Michael Ferenczi</td>
</tr>
<tr>
<td></td>
<td>Prof Dean Nizetic</td>
</tr>
<tr>
<td></td>
<td>Prof Sven Pettersson</td>
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<tr>
<td></td>
<td>Prof Walter Wahli</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Fabian Lim</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Wang Xiaomeng</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Yusuf Ali</td>
</tr>
<tr>
<td>Neuroscience and Mental Health</td>
<td>Prof Balázs Gulyás</td>
</tr>
<tr>
<td></td>
<td>Prof George Augustine</td>
</tr>
<tr>
<td></td>
<td>Assoc Prof Suresh Jesuthasan</td>
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<tr>
<td></td>
<td>Asst Prof Anna Barron</td>
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<tr>
<td></td>
<td>Asst Prof Ch'ng Toh Hean</td>
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<tr>
<td></td>
<td>Asst Prof Christine Cheung</td>
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<td></td>
<td>Asst Prof Foo Jia Nee</td>
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<tr>
<td></td>
<td>Asst Prof Hiroshi Makino</td>
</tr>
<tr>
<td></td>
<td>Asst Prof Yasunori Saheki</td>
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<td></td>
<td>Asst Prof Sarah Raye Langley</td>
</tr>
</tbody>
</table>
Once the lab rotations/projects are confirmed, please complete “Proposed Research Topic and Supervisor for Lab Rotation”, available in Annex F, and submit to the Graduate Programmes team.

Requests to undertake lab rotations within the same research theme or with other school(s) in NTU will be subject to recommendation from primary supervisor and approval from the PhD Programme Director. Students who are undertaking non-lab-based rotations in Family Medicine and Primary Care and Health Systems and Population Health research themes are allowed to do two rotations within the same theme but with different supervisors.

After completion of each lab rotation/project, students are required to submit a report, in the form of a scientific paper to Graduate Programmes team within two weeks for evaluation at the PhD Qualifying Examination in due course. After completion of two lab rotations/projects, students are to confirm their supervisors and research topic before the first Thesis Advisory Committee (TAC) meeting is held.

**Global Health Awareness Attachment**  
*(Only applicable to non-clinician students)*

Designed for non-clinician students to gain a better understanding of healthcare services and systems in developing and developed countries, the attachment is to be completed before the student’s Qualifying Exam.

Students are required to attend up to two weeks of a Global Health Awareness attachment in a developing country.

The School provides four options for students to complete the Global Health Awareness attachment requirement:

- To participate in School-organised overseas trip to the Christian Medical College (CMC) at Vellore, India or Siriraj Hospital, Mahidol University, Bangkok, Thailand
- To participate in an Overseas Community Involvement Programme (OCIP). Students looking at this option are expected to jointly organise the trip with MBBS students.
- To attend relevant global health courses held in various institutions in Singapore.
- Propose alternative attachment locations other than those recommended by the School.

For more information on the above options and the selection form, please refer to Annex G. A report has to be submitted to the Graduate Programmes team within two weeks from the end of your Global Health Awareness attachment.
Clinical Awareness Attachment
(Only applicable to non-clinician students)

Non-clinician PhD students must undertake a two-week attachment at the hospital in their first year, normally with one week in wards/clinics and another week in a diagnostic/research lab. Clinical Awareness Attachment is a requirement as part of the Qualifying Examination which is due between 12 to 18 months from enrolment. Students usually undertake the attachment after the examination period of the first semester from enrolment:

<table>
<thead>
<tr>
<th>Intake</th>
<th>Clinical Awareness Attachment</th>
</tr>
</thead>
<tbody>
<tr>
<td>August</td>
<td>November - December</td>
</tr>
<tr>
<td>January</td>
<td>May - July</td>
</tr>
</tbody>
</table>

Attachment Requirements

- Students must be supervised by a clinician/lab or research staff at the hospital/lab.
- Attachment should be relevant to their research area.
- Attachment programme may include guided reading of the current medical literature and attendance at clinical meetings, rounds and seminars. The hospital/lab supervisor could also plan learning activities that are deemed suitable for the research student.
- Students must record their attendance during the attachment with the Teaching Assistant Assignment Timesheet found in Annex H. Each attendance must be endorsed by the respective clinical supervisor.

Learning Outcomes

After the completion of the Clinical Awareness Attachment, students are expected to be able to:
- Demonstrate a deeper understanding of the diseases that they are studying and the impact on patients.
- Demonstrate the ability to recognise clinically relevant scientific problems of medicine and the research project in a way that addresses the clinical need.
- Communicate effectively with clinical colleagues.

Deliverable from the Student

A written report which includes cover page, a table of contents, information of supervisors and attachment period, background of the healthcare institution and supervisor being attached to, description of activities/tasks performed, pre- and post-attachment experience, the impact on the research project and conclusion. The word requirements for the report is 1,000 – 1,500 words.

Students are required to submit the report together with the Teaching Assistant Assignment Timesheet within two weeks upon completion of attachment to the Graduate Programmes team.
Application Process

The application is co-ordinated by the School’s primary clinical training partner, National Healthcare Group (NHG). Students will be attached to Tan Tock Seng Hospital or its affiliated institutions/centres e.g. National Skin Centre, Institute of Mental Health, during the attachment.

In the application, students will be required to provide documents including but not limited to the following:
- Curriculum Vitae (CV)
- Application form
- Passport-size photo
- Vaccination records
- Reference letters
- Indemnity / Undertaking letter

Application fees will be funded by the School. Other additional costs incurred, such as vaccination costs, are to be borne by the applicant.

Graduate Programmes team will introduce students who wish to undertake the Clinical Awareness Attachment with non-NHG healthcare institution with the respective Educational Development Officer. It is the student’s responsibility to follow up on the application process.

The Do's and Don’ts for Clinical Attachment

Do's
- Inform your LKCMedicine supervisor about the clinical attachment so they know your whereabouts
- Know the exact time and location to meet your attachment supervisor
- Observe with hands-off
- Dress appropriately for the professional setting
- Arrive early and be punctual
- Treat patients/other people you encounter with courtesy and respect
- Seek clarification if you do not understand
- Get help when you need it
- Be a team player and friendly to the staff
- Use appropriate language
- Carry your matriculation/access card with you at all times
- Inform your attachment supervisor/administrator if you are unwell and unable to work
- Ask for feedback from your attachment supervisor upon completion of the attachment
- Reflect on your experience and write the report
- Enjoy your attachment
Don’ts
• Don’t make changes to the attachment dates if possible
• Don’t perform work duties in the absence of supervision and/or when you are not instructed to
• Don’t ignore the office culture
• Don’t make negative comments about patients/others
• Don’t be afraid to ask questions
• Don’t be too casual when working in a formal workplace

Information Research and Management Workshop

This compulsory workshop is aimed at providing all NTU PhD students with strong foundational knowledge of current resources, tools, methods and practices in undertaking research in a digital information environment. In recognition of increasing inter-disciplinary research, the workshop will be non-discipline specific (but will direct students to discipline-specific resources and guides for individual exploration beyond the seminar). This approach, along with a small group, discussion-based workshop format will also act as a means by which PhD students will interact with peers outside of their Schools. The workshop will be regularly scheduled throughout the year in the Library Instructional Commons (seating capacity 40). Students will be required to attend the workshop within their first year of matriculation.

Proposed Outline

Three hours, including break

Current Information landscape (~1 hour)
• Types of resources and latest search/access tools
• Managing references and articles (EndNote, Mendeley)
• Keeping up-to-date using digital technologies (Search alerts, Browzine)

Scholarly metrics (~1 hour)
• Research impact, high impact journals, highly cited authors, etc.
• Tools for identifying seminal publications and significant journals
• Traditional metrics and Altmetrics

Research practices overview (~30 min)
• Researcher identity and profiles (ORCID, ResearcherID, etc.)
• Open access, open data
• Research data management

Information research support at NTU (~10 min)
• Subject librarians and research consultations
• Elective workshops
• Online guides and tutorials
Learning outcomes

- Differentiate between the content and capabilities of different information platforms.
- Identify and access subject-specific databases in order to find scholarly publications.
- List the benefits of using digital technologies to store, manage, and share references, papers, and the latest research.
- Find leading journals and influential authors and papers using relevant research tools.
- Recognise current practices for participating in the academic and digital research environment.
- List ways to get research support from the Library.

“Search strategies” are incorporated into various parts of the seminar, e.g. as part of exploring databases, but are not explicitly addressed as part of the learning outcomes. “Reference management” is addressed as part of using digital technologies to store, manage, and share references, etc.

The programme is offered by the NTU Library. Students are to register and book a session through Library Workshops Calendar (https://blogs.ntu.edu.sg/lib-learning/workshops/).

Attendance at Research Seminars

Every PhD student has to attend at least 10 seminars per year throughout their candidature. Students can take part in seminars organised by LKCMedicine and/or other NTU Colleges and Schools. The presentations could be led by graduate students, faculty and/or guest speakers. Sessions are usually free. Please use the Research Seminar Record Form found in Annex I to record the number of seminars attended.

Online Courses on Research Ethics

Every PhD student has to register for the online courses offered by the Collaborative Institutional Training Initiative Programme (CITI) (https://about.citiprogram.org/en/courses/) through NTU Institutional Review Board. Students can choose from a list of available courses which cover several key regulatory and ethical areas. Students shall subscribe directly to CITI as a PhD student of NTU. Each course takes an average of 30-45 minutes to complete.

Students are required to choose “Biomedical Research Investigators” as the required course.
Required Courses for “Biomedical Research Investigators”

<table>
<thead>
<tr>
<th>S/N</th>
<th>Course</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Belmont Report and CITI Course Introduction</td>
</tr>
<tr>
<td>2</td>
<td>History and Ethics of Human Subjects Research</td>
</tr>
<tr>
<td>3</td>
<td>Basic Institutional Review Board (IRB) Regulations and Review Process</td>
</tr>
<tr>
<td>4</td>
<td>Informed Consent</td>
</tr>
<tr>
<td>5</td>
<td>Social and Behavioural Research (SBR) for Biomedical Researchers</td>
</tr>
<tr>
<td>6</td>
<td>Records-Based Research</td>
</tr>
<tr>
<td>7</td>
<td>Genetic Research in Human Populations</td>
</tr>
<tr>
<td>8</td>
<td>Populations in Research Requiring Additional Considerations and/or Protections</td>
</tr>
<tr>
<td>9</td>
<td>Vulnerable Subjects - Research Involving Prisoners</td>
</tr>
<tr>
<td>10</td>
<td>Vulnerable Subjects - Research Involving Children</td>
</tr>
<tr>
<td>11</td>
<td>Vulnerable Subjects - Research Involving Pregnant Women, Human Foetuses, and Neonates</td>
</tr>
<tr>
<td>12</td>
<td>International Studies</td>
</tr>
<tr>
<td>13</td>
<td>Avoiding Group Harms - U.S. Research Perspectives</td>
</tr>
<tr>
<td>14</td>
<td>FDA-Regulated Research</td>
</tr>
<tr>
<td>15</td>
<td>Research and HIPAA Privacy Protections</td>
</tr>
<tr>
<td>16</td>
<td>Vulnerable Subjects - Research Involving Workers/Employees</td>
</tr>
<tr>
<td>17</td>
<td>Conflicts of Interest in Research Involving Human Subjects</td>
</tr>
<tr>
<td>18</td>
<td>Nanyang Technological University</td>
</tr>
</tbody>
</table>

Graduate Assistantship Programme (GAP) / Teaching Assistant Assignment

All full-time, non-clinician PhD Students are required to perform duties under the Graduate Assistantship Programme/Teaching Assistant Assignment as set out in the table below.

- The student will not be paid any remuneration for the hours clocked under the Graduate Assistantship Programme.

- The student should work with the supervisor(s) on the plan to fulfil the required hours on a yearly (Academic Year) basis.
<table>
<thead>
<tr>
<th>Mode of Clocking GAP Hours (Per Candidature)</th>
<th>Maximum % allowable out of the stipulated GAP requirement</th>
<th>Maximum hours allowance for this category during candidature</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teaching Hrs / Laboratory Supervision</td>
<td>100%</td>
<td>208 hours</td>
<td>416 hours</td>
</tr>
<tr>
<td>Research Assistant duty, inclusive of research supervision</td>
<td>60%</td>
<td>125 hours</td>
<td>250 hours</td>
</tr>
<tr>
<td>Other developmental assignments</td>
<td>20%</td>
<td>42 hours</td>
<td>83 hours</td>
</tr>
</tbody>
</table>

This includes the Global Health Awareness attachment and Clinical Awareness attachment, community and volunteer service, humanitarian and Overseas Community Involvement Programme, assistance in organisation of conferences, and other assignments with development value approved by PhD Programme Director.
## Types of Teaching Assignments

<table>
<thead>
<tr>
<th>Mode of Clocking GAP Hours</th>
<th>Types of Teaching Assignments</th>
</tr>
</thead>
</table>
| Teaching Hrs / Laboratory Supervision | • Preparation of tutorials and classes (incl. teaching aids, courses)  
• Conduct tutorials, classes and seminars  
• Assistance to tutor in teaching duties  
• Laboratory supervision  
• Assignment marking  
• Teaching administration  
• Laboratory supervision |
| Research Assistant duty, inclusive of research supervision | • Assistance to supervisor in literature search, data collection, data organisation, etc  
• Assistance to faculty on research outside their own areas  
Research administration duties |
| Other developmental assignments | • Assistance rendered in events (e.g. Open House, seminars, conferences)  
• Clinical Awareness Attachment  
• Global Health Awareness Attachment |

Students may register to be a Teaching Assistant (TA) or subject for LKCMedicine’s undergraduate science practical sessions upon passing the HWG702 Teaching Assistant Programme. The Office of Medical Education will send the schedule and registration details closer to the start of each new Academic Year. You are required to record the hours clocked during your TA duties with the Teaching Assistant Assignment Timesheet available in Annex H. Please submit the endorsed timesheets at the end of each semester to the Graduate Programmes team. The hours clocked would be reported to the Ministry of Education annually at the end of each Academic Year.

## Confirmation on Proposed Research Topic and Supervisors

Students are to submit the Proposed Research Topic and Supervisor for Higher Degree Candidates by Research form found in Annex J. Please follow the timeline indicated below.

<table>
<thead>
<tr>
<th>Type of Students</th>
<th>Timeline</th>
</tr>
</thead>
<tbody>
<tr>
<td>Clinician Students</td>
<td>By the second month from enrolment.</td>
</tr>
<tr>
<td>Non-Clinician Students</td>
<td>By the eighth month from enrolment.</td>
</tr>
</tbody>
</table>
Criteria for Supervisor-selection

Each student will normally be supervised by a primary supervisor and a co-supervisor from LKCMedicine. One of the supervisors must be medically qualified.

Main supervisor:
  i. must hold a PhD and/or Doctor of Medicine degree, and
  ii. must be a full-time faculty in LKCMedicine (Full/Associate/Assistant Professor)

Co-supervisor:
  i. must hold a PhD and/or a medical degree, and
  ii. must be a Full/Associate/Assistant Professor in LKCMedicine (includes Visiting and Adjunct faculty)

If the co-supervisor is nominated from beyond LKCMedicine, a second co-supervisor from LKCMedicine must be nominated.

Students who undertake an attachment in Imperial College London (Imperial) will, in addition, be supervised by a member of Imperial’s faculty. In this case, the Imperial faculty must be identified in advance and provide a written agreement to act in this capacity.

Change of Supervisor(s)

Request for changing supervisor(s) will only be considered before the student’s Qualifying Examination. The student is required to seek approval from the current supervisor and the new proposed supervisor before filling in the “Change/Add Supervisor(s) Request Form” found in Annex K. Completed forms are to be submitted to the Graduate Programmes team, for approval by PhD Programme Director.

Thesis Advisory Committee (TAC)

The TAC must be formed by the 6th month (for clinician students) or by the 8th month of the student's enrolment (for non-clinician students). The student and the primary supervisor must complete and submit the nomination form for the School’s approval. The Nomination of Thesis Advisory Committee (TAC) form can be found in Annex L.

The TAC meeting is to be conducted annually and the student is responsible for planning each TAC meeting i.e. scheduling a date/time and venue with supervisors and TAC members.
Composition of TAC Members

The TAC comprises:
- Chairperson from LKCMedicine who is a full-time Associate Professor and above (Adjunct and Visiting Professors are not allowed to be nominated as TAC Chairperson/Members)
- One full-time faculty from LKCMedicine
- One faculty from NTU, NUS, Duke-NUS, A*Star, Imperial, other research institutes or healthcare institutions
- Main supervisor
- Co-supervisor

Responsibilities of TAC Members

- Student must discuss the nomination with the supervisors
- TAC members should have given their consent for the nomination TAC members should be willing to remain on the TAC for the duration of the student’s candidatureAll TAC members should be present at each TAC meeting
- TAC should assist to monitor the progress of a student's work and advise student about the development of her/his research project
- Student is responsible to convene the subsequent TAC meeting in due course

Prior to TAC meeting

Student should consult the supervisor on the length of the report. The report:
- must be submitted to the TAC at least three weeks before the TAC meeting
- should present an outline of the project, proposed methodology and preliminary results if available. The project should be one of the two laboratory rotations (if applicable) that the student is likely to choose as the final thesis

Reports for subsequent TAC meetings should include updates to the research plan and the student’s progress in her/his thesis.

On the day of TAC meeting

The candidate should make a presentation of no more than 30 minutes followed by a discussion with the TAC.

Post-TAC meeting

The TAC must prepare and submit the Thesis Advisory Report within one week from the TAC meeting to the Graduate Programmes team. The report, no more than two pages, should include the following:
- Name of student
- Title of research project
- Details (date/time/venue) of the meeting
- Assessment on the student’s progress
- Recommendations for further work where appropriate
- Recommendations for renewal of scholarship and continuation of candidature
- Signatories of all TAC members
Supervisor(s) must prepare and submit a Progress Report within one week from the TAC meeting to the Graduate Programmes team. The report should not be more than two pages. It should include the following:

- Name of student
- Title of research project
- Details (date/time/venue) of the meeting
- Assessment on the student’s progress
- Recommendations for further work where appropriate
- Signatories of all supervisors

Upon receiving the Thesis Advisory and Progress reports, the Graduate Programmes team will attach the continuation of Candidature and Scholarship Renewal form to the reports for the PhD Programme Director’s approval.

Please see the Thesis Advisory Report and Progress Report forms found in Annexes M and N respectively.

**Stipend Renewal**

The schedule for stipend renewal for Nanyang President’s Graduate Scholarship (NPGS) and NTU Research Scholarship (RSS) is as follows:

<table>
<thead>
<tr>
<th>Year</th>
<th>NPGS</th>
<th>RSS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Year 1</strong></td>
<td>Renewed for a further six months. If the 1st TAC Report and 1st Progress Report are not received by the 12th month (from matriculation), the stipend will be suspended. The backlog stipend up to a maximum of six months would be returned to you once the TAC Report and Progress Report are submitted.</td>
<td>Auto-renewed at the 12th month (from matriculation), for a further six months. If the 1st TAC Report and 1st Progress Report are not received within three months from the 12th month, the stipend will be suspended. The backlog stipend up to a maximum of six months would be returned to you once the TAC Report and Progress Report are submitted.</td>
</tr>
<tr>
<td><strong>Year 2</strong></td>
<td>Stipend will be suspended if QE Report is not received by the 18th month (from matriculation). A back-pay of up to six months of stipend will be given to student who does not complete the QE within 18 months but completes the QE by the 24th month. Upon passing QE, stipend renewal will be for a period of six months. Upon submission of the 2nd progress report at the end of the 24th month, stipend will be renewed for 12 months.</td>
<td></td>
</tr>
<tr>
<td><strong>Year 3</strong></td>
<td>Students is expected to conduct their 2nd TAC by the 30th month (from matriculation). Once the 2nd TAC report and 3rd Progress Report have been submitted, the renewal will be for a further six months after the 36th month (from matriculation).</td>
<td></td>
</tr>
<tr>
<td><strong>Year 4</strong></td>
<td>At the 42nd month (from matriculation), the stipend will be auto-renewed for a final six months. The 3rd and final TAC report has to be submitted by the 45th month (from enrolment) or the stipend will be suspended.</td>
<td></td>
</tr>
</tbody>
</table>
Qualifying Examination (QE)

The Qualifying Examination (QE) shall be held between 12 and 18 months from enrolment.

Nominations of examiners must be made three months before the QE.

Pre-requisites

Students must have successfully completed the curriculum requirements. For coursework, students must have attained a minimum CGPA of 3.50.

Students must submit the completed Nomination of Examiners for PhD Qualifying Examination form (found in Annex O) together with the Curriculum Requirements Checklist and supporting documents/reports to the Graduate Programmes team.

Following are the curriculum requirements for clinician and non-clinician PhD students:

<table>
<thead>
<tr>
<th>Requirements</th>
<th>Clinician</th>
<th>Non-Clinician</th>
</tr>
</thead>
<tbody>
<tr>
<td>Two core courses</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Two elective courses</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>ERI701 Epigeum Research Integrity Course</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Online Courses on Research Ethics</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>Attendance at Research Seminars</td>
<td>✓</td>
<td>✓</td>
</tr>
<tr>
<td>HWG703 Graduate English, if applicable</td>
<td>NA</td>
<td>✓</td>
</tr>
<tr>
<td>HWG702 Teaching Assistant Programme, if applicable</td>
<td>NA</td>
<td>✓</td>
</tr>
<tr>
<td>Report for first laboratory rotation</td>
<td>NA</td>
<td>✓</td>
</tr>
<tr>
<td>Report for second laboratory rotation</td>
<td>NA</td>
<td>✓</td>
</tr>
<tr>
<td>Report for Clinical Health Awareness attachment</td>
<td>NA</td>
<td>✓</td>
</tr>
<tr>
<td>Report for Global Health Awareness attachment</td>
<td>NA</td>
<td>✓</td>
</tr>
</tbody>
</table>

Composition and Responsibilities of QE Panel

Please obtain consent from the QE Panel before submitting the nomination form. The QE panel comprises the Chair and at least two examiners. Members of the panel should hold doctoral degrees or equivalent:

a. The Chair is the representative of the Dean who is a full-time Associate Professor or above (Adjunct and Visiting Professors are not allowed to be the QE Chairman / Examiners)
b. The first examiner could be a Thesis Advisory Committee (TAC) member or nominated from LKCMedicine
c. The second examiner could be nominated from LKCMedicine or different school
d. QE panel members must not have joint publications with the student
The supervisor and/or co-supervisor will be invited to attend the QE. They cannot, however, serve as members of the QE panel.

Prior to QE

Students shall submit three ring-bound copies of the research proposal to the Graduate Programmes team three weeks before the QE. Please see following guidelines on proposal format.

The proposal should be no more than 100 pages in length (font size 12 and double-sided A4 page with 1 inch margin) and includes the following:

a. Background to the study and research objectives
   (If the topic of study has deviated from the original proposed topic, an explanation is required)

b. Literature review

c. Methodology

d. Preliminary results, if any

e. Discussion of preliminary results, if any

f. A plan of action that should include work done to date and methodology suitable for the next stage of work and that is achievable within the remaining timeframe of the candidature. A detailed schedule should be included as far as possible

g. A description of possible challenges and how the candidate intends to meet those challenges

Candidate’s Responsibilities

The candidate should:

- Keep track of her/his own candidature and work together with the supervisor(s) to begin preparing for the confirmation of candidature six months before the deadline stipulated by the university.
- Ensure that the research proposal is submitted to the School three weeks before the QE.
- Discuss and work together with the supervisor(s) to produce a research proposal in a form ready and acceptable for examination.
- Declare that the research proposal has been screened for plagiarism against previously published works.
- Indicate clearly if the supervisor’s approval has been obtained before submitting the research proposal.
- Treat the QE with utmost importance by preparing well for the presentation and anticipate the questions that may be asked.
- Dress appropriately for the occasion to reflect the significance and importance of the QE.
- Present her/his points clearly and professionally.
- Be prepared to consider the recommendations and advice of the panel.
On the day of QE

- The candidate is required to make a presentation followed by a question and answer session on the work done.
- The presentation will be in the format of an open seminar. The presentation shall not exceed 30 minutes.
- The Chair has the discretion whether to allow questions from the audience.
- The open seminar will be followed by a closed-door session at which the QE Panel will pose its questions to the candidate.
- The candidate may be asked to leave the room when the QE Panel needs to make its deliberations.
- The candidate should take note of her/his responsibilities as indicated above.

Post QE

The QE panel must submit a report with recommendations for renewal of scholarship and/or confirmation of candidature or termination of candidature to the School within one week from the date of the QE. The supervisor and co-supervisor are required to submit a progress report to the Graduate Programmes team.

Upon receiving the report, the Graduate Programmes team will complete and submit the Assessment on Research Student’s Progress Renewal of Scholarship form for PhD Programme Director’s approval.

All PhD candidates are allowed to submit their research proposal up to a maximum of two times, subject to the time allowed for confirmation of candidature as stated in the letter of offer. For a PhD student, if the second attempt is still considered to be below the standard required for candidature, s/he will be recommended to withdraw from the programme.

Selection of Research Pathway

PhD candidates are required to select their Research Pathways from the following:

**Pathway 1 - Mainstream**
- Undertake project at LKCMedicine

**Pathway 2 – Industry-aligned**
- Undertake project at LKCMedicine with industrial placement (six to 12 months) in Year 3

**Pathway 3 - Dual centre**
- Undertake project conducted at LKCMedicine and Imperial College London (12 to 18 months) from second half of Year 2 to Year 3

Any personal expenses associated with the attachment at Imperial are to be borne by the students.
LKCMedicine will only cover the administrative costs of the attachment at Imperial. Students are required to return to Singapore to complete their main project at LKCMedicine and prepare their thesis for submission.

PhD Thesis and Oral Examination

Candidates are required to submit the thesis in a form ready and acceptable for examination before the expiry of their maximum candidature, or they will have to submit a request for extension of candidature through their supervisors.

Candidates are required to discuss with their supervisor at least three months before the end of scholarship if an extension is required and if funding to support the candidate is available.

If it is deemed that an extension is required, the “Application for Extension of Candidature of Higher Degree Candidates (by Research)” form (found in Annex P) is to be submitted to the Office of Academic Services, through the Supervisor and PhD Programme Director. For candidates who are on a self-funding basis, request for extension should be submitted at least three months before the end of candidature.

Appointment of Thesis Examiners

Candidates must discuss their progress with supervisor(s) before initiating the process of nominating thesis examiners.

The nomination should be made at least three months before the expected date of thesis submission for examination.

Only the external examiners will be paid honorarium.

The candidate and supervisor must submit the following:

- Form for Initiation of Action to Nominate Examiners for Thesis Examination (Annex Q)
- Examiner’s acceptance of appointment
- Examiner’s curriculum vitae and examiner’s publication list

Composition of Thesis Examiners

A PhD thesis requires at least three independent examiners: one internal and two external examiners.

- Examiners for PhD students must be PhD holders themselves or hold its equivalent doctoral research degrees.
- The examiners can be appointed from members of the Thesis Advisory Committee (TAC) provided there is no conflict of interest and that these TAC members do not have joint publications with the PhD candidate.
• The internal examiner must be NTU’s faculty – Professor, Associate Professor or Assistant Professor. NTU’s lecturers and senior lecturers cannot be internal examiners.

• The external examiner should be an academic staff with good international standing in his / her field of research. He / She must be a senior faculty staff of the rank of Associate Professor or full Professor from a top university or a senior researcher in an international research institution.

• In the case of a senior researcher from a reputable international research organisation who is invited to be an external examiner, he / she should have some prior experience in supervising and examining PhD students.

• Both external examiners cannot be from research organisations only. At least one of the external examiners should come from an internationally recognised reputable university.

• Visiting Professors may be appointed as external examiners provided they have already left NTU when the thesis is ready for examination. Ex-supervisor(s) of the student cannot be appointed as the external examiner.

• Both the external examiners should not be from
  - local institutions only
  - same overseas university
  - research institutions only (without any academic affiliation or prior PhD supervision experience)

• As a general guide, an external examiner should have a strong publishing record with a good number of papers in top SCI (Scientific Citation Index) journals in the given research area. The School is expected to carry such verification especially for external examiners who did not obtain his/her PhD from top established universities.

• The appointment of examiners is confidential. The supervisor is to provide a list of suitably-qualified nominees to the Graduate Programme team and the School will make the final selection from the pool of nominees. The identities of the examiners will not be revealed to students and supervisors.

Prior to Submission of Thesis

The thesis should take the form of a monograph and must be a record of the candidate’s own research, written in his/her own words and not an assemblage of papers documenting the work of multiple contributors. It should describe problems and failures as well as successes. Data obtained in collaboration with other researchers may be included, but its provenance should be explicitly indicated in the text.
It is an expectation, though not a strict requirement that the research undertaken will lead to the publication of one or more peer reviewed publications. Papers or patents arising from the research may be submitted together with but not in lieu of the thesis. The thesis should not exceed 40,000 words.\(^2\)

The candidate is required to prepare the following documents before submission of thesis:

- Receipt of examination fee. (You can find out the amount on your admissions letter).
- Pdf copy of your final thesis, following in the following order given, all of which must be bound with the thesis:
  
  I. Title Page
  II. Statement of Originality (Annex R)
  III. Supervisor Declaration Statement (Annex S)
  IV. Authorship Attribution Statement (Annex T)
  V. Acknowledgements
  VI. Table of Contents
  VII. Summary

- Academic records which you can download from GSLink.
- Abstract (150 words or less).
- Turnitin Originality Report (only the 1st page with the percentage shown is required). The current guide for plagiarism checking is $\leq 15\%$. If the percentage exceeds the maximum, the thesis must not be submitted and candidate is required to follow up with supervisor. Please submit a pdf copy of your final thesis to gradprog_LKCmeidicine@ntu.edu.sg for plagiarism checking. To access Turnitin Plagiarism Detection Tools, please login to NTULearn (https://ntulearn.ntu.edu.sg) using your NTU network ID and Password.

You are required to hand your Turnitin Originality Report in person to the Graduate Programmes team before your online thesis submission.

\(^2\) including footnotes, but excluding appendices, bibliography, maps, charts, statistical tables, graphs, illustrations, etc.
Submission of Thesis

The documents that you would be required to upload are:

• Pdf copy of your final thesis, following in the following order given, all of which must be bound with the thesis:

  I. Title Page
  II. Statement of Originality (Annex R)
  III. Supervisor Declaration Statement (Annex S)
  IV. Authorship Attribution Statement (Annex T)
  V. Acknowledgements
  VI. Table of Contents
  VII. Summary

• Academic records
• Abstract (150 words or less)
• Receipt of examination fee

(Students admitted before AY2017-18 are required to pay an examination fee when they submit their thesis, unless the examination fee is covered under the terms of the research scholarship and the thesis is submitted within the prescribed scholarship period. The examination fee is $214.00. For students admitted in AY2017-18 & onwards, the examination fee is inclusive in student’s billing)

Please upload the above mentioned documents to the Thesis Submission Portal at GSLink → Academic → Thesis → Thesis Submission

Important Notes:

• The PhD thesis should not exceed 40,000 words.³
• The date on which the supervisor endorses the thesis to be in an acceptable form for examination online will be taken as the date of submission.
• Ensure the thesis that you uploaded onto the portal is the final version of the thesis that is to be read by the examiners. No changes are allowed once your thesis is uploaded onto the portal.
• Candidates who submit the thesis in a form ready and acceptable for examination before or within the first two teaching weeks of a semester will not be liable for tuition fee for that semester.
• Candidates who are in the programme of study for more than two weeks of a semester are liable for tuition fees for that semester as long as they have not submitted their thesis in a form ready for examination.
• Candidates who submit their thesis before 30 September (for Semester 1) or 31 March (for Semester 2) may pay half a semester’s fee. Students who submit their thesis beyond 30 September (for Semester 1) or 31 March (for Semester 2) shall be liable for full fees for the semester.

³ Including footnotes, but excluding appendices, bibliography, charts statistical tables, graphs, illustrations, etc.
• Candidates are to seek thesis-approval from their supervisor before the online submission.
• Supervisors are given up to a maximum of 1 week to approve the online submission of candidate’s thesis.
• Once you have submitted all required documents, a pop-up window will appear. You may then enter the proposed new thesis title which is subject to approval. Please ensure you “allow pop-up” on your browser so that you can key in the amended thesis title.

Post-Thesis Submission
The thesis examiners are given up to two months to complete their examination of the thesis. All examiners will receive a soft copy of the thesis for their evaluation and hard copies will be given only upon request.

Thesis Amendments / Re-examinations
For minor amendments, the School will proceed to arrange the Oral examination and the candidate shall be given one month from date of the oral examination to make amendments to the thesis.
For major amendments, the candidate shall be given three months from the date of the examination outcome notification from OAS to make amendments to the thesis.

For thesis examination outcome of either major amendments or further study, the amended thesis shall be reviewed and confirmed acceptable for award of degree before the student can proceed to oral examination.

For internal examiner who recommended major amendments, the School shall send the amended thesis, together with all examiner’s original reports and candidate’s responses to all examiners’ comments, to him / her for review.

For external examiner who recommended major amendments or further study, the amended thesis shall be reviewed and confirmed by either

a) the external examiner himself/herself if he/she agrees to a re-examination, or
b) the internal examiner who shall on behalf of the external examiner ensure that all requirements and concerns have been appropriately addressed.

The School shall liaise with the internal examiner and OAS shall liaise with the external examiner.

Both internal and external examiners are given two weeks to review the amended thesis.

The School shall proceed to arrange the oral examination within one month from the date of

a) the internal examiner’s confirmation to the School that the thesis is satisfactorily amended and it is acceptable for award of degree subject to the student passing the oral examination, or
b) the re-examination outcome notification from OAS.
Should the amended thesis be deemed to be unsatisfactory and further amendments are required, the candidate shall be given one month from the date of the re-examination outcome notification from OAS to make amendments to the thesis for re-submission.

**About the PhD Oral Examination**

The PhD oral examination (also known as ‘oral defence’ or ‘viva’) is the final assessment of a candidate’s research by the University. It is compulsory for all PhD candidates. In NTU, the oral examination is conducted after a candidate’s thesis has been examined by three or more examiners and the required (major) amendments made to the satisfaction of the examiner(s), as indicated in the outcome of the thesis examination.

At the PhD oral examination, the candidate first gives a presentation of his work. This is followed by questions from the examiners on selected aspects of the candidate’s entire thesis.

It is common practice for the candidate to publish a few journal papers prior to the PhD oral examination but this is not mandatory. The supervisor shall guide the student on the preparation for the oral examination.

**Appointment of the PhD Oral Examination Panel**

The nomination should be made at least three months before the expected date of thesis submission for examination. Supervisors are to provide list of nominees to the Graduate Programmes team and the School will make the final selection. The appointment of the Oral Examination Panel is confidential and identities of its examiners will not be revealed to students and supervisors.

The core composition of members for the candidate’s PhD Oral Examination panel shall include the School Chair or his nominee, and at least two other examiners (one who is the University examiner and another examiner who represents the external examiners).

The Chairman of the panel, whose role is that of the representative of the School Chair, should be a senior faculty staff who is an Associate Professor or above from the home School of the PhD candidate.

The PhD Oral Examination panel consists of the following members:

a) The Chair or his nominee (from same School as PhD candidate)
b) Internal/University Examiner 1 (from the same or a different School from the PhD candidate, can be TAC member).
c) Internal Examiner 2 (from the same or a different School from the PhD candidate, can be TAC member, who will ask questions posed by the external examiners).
d) Additional Examiner(s) as appropriate and approved.
Important Notes:
TAC members can be appointed as PhD Oral Examination panel members provided there is no conflict of interest and they have not published any paper with the PhD candidate.

The supervisor and co-supervisor, including ex-supervisor(s), cannot serve as members of the Oral Examination panel. They can only act as observers with no voting rights.

The PhD Oral Examination is open to all to attend, except in cases where some Intellectual Property issues may be involved. In these latter cases, the supervisor and PhD candidate can seek the approval of the Chair of the School for a ‘closed door’ oral examination to be conducted by the panel.

External examiners are not required to be present but may attend the Oral Examination as voting members.

In exceptional circumstances, the Oral Examination can be held by video-conferencing or by other remote means as granted by the School Chair with the approval of Dean, Graduate College.

When to Arrange the Oral Examination
The Oral examination shall be arranged by the School after the thesis examination or re-examination has been completed and amendments stipulated by the examiners have been reviewed and certified by the examiner(s) as satisfactory and acceptable.

Preparing for the Oral Examination
Candidates should ensure that they are thoroughly familiar with the content of the thesis and anticipate questions that the panel may ask.
Students should practise summarising their thesis out loud with a friend and speak to colleagues who have recently completed their degrees and been through the Oral Examination process.

On the Day of the Oral Examination
- The Viva Voce examination consists of two parts:
  i. an open seminar not exceeding 40 minutes and
  ii. private discussion with the panel
- Candidates are expected to answer questions raised by the audience.
- Candidates must attend the Oral examination in Singapore.
- Video conferencing will only be allowed in certain circumstances, subject to the permission of the School. There must not be any video recording of the Oral examination by the student.
- If the Oral examination is conducted via video conferencing, the School will liaise with the candidate on the details and resources, and all costs shall be borne by the candidate.
Post Oral Examination

The result of an oral examination will be one of the following:

a) Pass the oral examination without any further amendments to the thesis.
b) Pass the oral examination with the requirement to attend to all amendments to
the thesis to the satisfaction of the appointed panel member.
c) Fail the oral examination and must repeat it at a later date with no further
amendments to the thesis.
d) Fail the oral examination and must repeat it at a later date after amendments
to the thesis.

The repeat oral examination should be conducted at a date agreed upon by all the
panel members. It should not be later than eight weeks after the date of the first oral
examination.

The result of a repeat oral examination will be one of the following:

a) Pass the oral examination without any further amendments to the thesis.
b) Pass the oral examination with some amendments to the thesis.
c) Fail the repeat oral examination.

The final outcome of the Oral Examination panel is generally expected to be made by
consensus. In cases where such consensus is not possible, the majority view will
prevail. In such cases, a written record of the reasons for dissenting view and the name
of the panel member must be put on record and this should be submitted together with
the final report.

Should the candidate fail the repeat oral examination, his case will be put forward to
the Chair of the School for further consideration. The case may also be reported
through the Dean of College to Dean, Graduate College for approval.

- Candidates have to pass the Viva Voce examination and submit: two hardbound
copies of the thesis for distribution to the LKCMedicine Library and the NTU Library
(An email would be sent from Office of Academic Services-Graduate Studies to
submit your hard bound thesis to OneStop@SAC
(https://ossac.wis.ntu.edu.sg/NTUSACSSWPWeb/Home/Public)
- a soft copy of the thesis to NTU Library via
https://repository.ntu.edu.sg/drntu/procedure.htm

Appeals

A candidate may appeal against a negative outcome of the report on the Oral
Examination. S/He should write the letter of appeal to the PhD Programme Director.

Potential grounds for appeal are:

a) Perceived prejudice or bias on the part of one or more of the panel members.
b) Medical reasons that have severely affected the candidate’s performance on the
day of the confirmation/conversion seminar.
c) Perceived procedural irregularities during the Oral Examination.
The letter should state the purpose and grounds clearly, and it must be substantiated clearly by documented evidence in support of the appeal.

**Format of final thesis**

The final thesis, after examination and amendments (if any), must be submitted in the form given below:

- The copy must be cyclostyled or printed and bound with hard covers in international size A4 (210mm x 297mm);
- Each page must have a margin of 3.7cm to allow for binding;
- The thesis must be preceded by the following in the order given: title page, acknowledgements, table of contents, and summary, all of which must be bound with the thesis;
- The title page and acknowledgement page should be printed on single pages. From the content page onwards, the pages should preferably be printed double-sided, if possible, to reduce the thickness.
- The title and author's name must be given in block letters on the cover of the thesis;
- The title or an abbreviation thereof and the author's name must be given on the spine of the thesis;
- The thesis must be bound in dark blue with gold lettering not exceeding 16pts;
- Pages must be numbered in one continuous sequence in arabic numerals. Where a thesis consists of more than one volume, one sequence must be used.
- A sample format of the thesis can be found on Annex U.

**Conferment of Degree**

**Process of Conferment of Degree**

The process of conferment of degree is as follows:

1. Students complete all requirements for award of degree.
2. Candidates will be put up to the Graduate College Executive Committee (GCEC) and Associate Provost for approval of award of degree.
3. The conferment list will subsequently be presented to Pro-Chancellor to confer the degrees.
4. Upon Pro-Chancellor’s conferment of degree, the Office of Academic Services will issue the conferment letters to students.
1. PhD candidates must have completed the thesis examination/re-examination and passed the oral examination with no further amendments required in order to be presented to the Graduate College Executive Committee (GCEC) for award of degree. Also, if the oral examination report is received from the School after the deadline for the current month’s GCEC, the student will be included in the next month’s GCEC instead.

2. Conferment letters can only be issued upon the conferment by the Pro-Chancellor.

3. Students with outstanding fees owed to the University will have their conferment letters withheld till the outstanding fees are settled in full.

4. The entire conferment process may take at least two months (from the date of receipt of the oral examination report from the School certifying the student has passed the oral examination) before the conferment letter can be issued. In the meantime, the University can issue an official certification letter to certify the student’s latest status. The request for this letter can be submitted via GSLink.

5. Conferment letters will be sent to students’ mailing address. It is students’ responsibility to update any changes in mailing addresses via GSLink.

**Replacement of NTU Degree Certificate**

The degree scroll is a record of static information – the graduate’s name, degree earned, prevailing University signatories, as at the time the degree was conferred by the University Pro-Chancellor. In addition, with the evolution of the University’s governance structure, the appearance as well as the signatories on degree scrolls may have changed over the years.

NTU will provide a replacement degree certificate in situations where the original is lost or damaged.

The replacement degree certificate will be printed using the prevailing NTU certificate format with the current NTU signatories and will contain the statement “Replacement copy” on the reverse page of the certificate. The name printed in the replacement degree certificate must be identical to the original in accordance with the NTU official records. Any name change after graduation will not be reflected in the replacement degree certificate.

Please complete and submit the request form (available in Annex V) together with the relevant supporting documents to:

Office of Academic Services  
Nanyang Technological University  
Student Services Centre, Level 2  
42 Nanyang Avenue  
Singapore 639815

Supporting documents include statutory declaration/police report for loss and original certificate if it is damaged. For statutory declaration/police reports which are not in English, they are to be submitted together with translations in English.
In the event that the original degree certificate is recovered after the replacement degree certificate has been issued, please return the replacement copy to NTU.

The replacement fee is $107.00 (inclusive of GST) which must be made at the time of submitting your request. The request will only be processed upon receiving all documents required and the full payment of relevant fee. The processing time is about four weeks on receipt of request and payment. The replacement fee is non-refundable. For more information on Degree Certificate and Transcript, please contact the following:

<table>
<thead>
<tr>
<th>Enquiry</th>
<th>Contact Number</th>
<th>Email Address</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Research Thesis Matters</td>
<td>6592 2526</td>
<td><a href="mailto:Thesis-Research@ntu.edu.sg">Thesis-Research@ntu.edu.sg</a></td>
<td>Student Services Centre, Level 2</td>
</tr>
<tr>
<td>Transcripts / Degree Certificates</td>
<td>6790 4704</td>
<td><a href="mailto:higherdeggrad@ntu.edu.sg">higherdeggrad@ntu.edu.sg</a></td>
<td>42 Nanyang Avenue</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Singapore 639815</td>
</tr>
</tbody>
</table>

**Graduate Student Link (GSLink)**

The GSLink (accessible by clicking the “Login” button on the NTU homepage and then select GSLink) is a one-stop service point for Graduate Students which offers administrative and transactional services:

- Change of Personal Particulars (Please access GSLink > Administrative > Update Personal Particulars)
- Academic (thesis, examination and course registration)
- Financial (outstanding fees and enquiries on stipends)
- Administrative (letters of certification and applications for leave of absence)
- IT Services
- Rules, Regulations and Code of Conduct

**Updating of Personal Particulars**

Throughout your studies, students are responsible for keeping their personal particulars updated in the University's records in a timely manner. The University will not be accountable for delayed or lost correspondence due to incorrect or outdated students’ addresses or contacts.

**Update of Contact Information**

Students can update changes to their personal particulars such as addresses, contact number, and personal email address via GSLink > Administrative Matters > Update Personal Particulars. The particulars that students update should be true, accurate and complete.

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4 Please visit website - http://www.ntu.edu.sg/Students/Graduate/AdminServices/Pages/Letter-of-Certifications.aspx for details.
For students who have changed their name but fail to inform the University in a timely manner, the name as presently reflected in the University official records will be used for the printing of the academic transcript and degree certificate. Students will bear any possible consequence arising from inaccurate, incomplete or false information given or any omission of information required.

**Update of Citizenship/PR Status/Name/Passport No.**

For changes to name, international passport, Singapore Citizenship, Singapore Permanent Resident status, please produce the original documents and student matriculation card in person (as indicated in the table below) for verification at the One Stop @ SAC - https://ossac.wis.ntu.edu.sg/NTUSACSSWPWeb/Home/Public.

<table>
<thead>
<tr>
<th>Information to be Updated</th>
<th>Original Documents to be Furnished</th>
</tr>
</thead>
<tbody>
<tr>
<td>Change of Name</td>
<td>Passport (International Students)</td>
</tr>
<tr>
<td></td>
<td>NRIC AND Deed Poll</td>
</tr>
<tr>
<td></td>
<td>(Singaporeans &amp; Singapore PRs)</td>
</tr>
<tr>
<td>Change to Singapore Citizenship</td>
<td>Pink NRIC</td>
</tr>
<tr>
<td>Change to Singapore PR Status</td>
<td>Blue NRIC AND Re-entry Permit</td>
</tr>
</tbody>
</table>

**Timeline for Updating**

Students who are in their final semester of study are reminded to submit changes to their particulars (specifically name, citizenship, NRIC, passport number, or marital status) and the supporting documents prior to the submission of thesis for examination.

**Upon Graduation**

To stay connected, alumni can submit changes to their personal particulars to the Alumni Affairs Office - http://www.ntu.edu.sg/Alumni/Pages/StayConnected.aspx.

**NTULearn**

There will be occasional scheduled maintenance on NTULearn and its learning services by the University. During this period, students will not be able to access their course content, learning activities, quizzes, assignment submission and etc.

**Student Feedback on Teaching**

The online Student Feedback on Teaching is usually conducted two weeks before the start of each semester examination or the end of the teaching period. All student responses will be kept anonymous and student feedback will be disseminated to the respective Course Lead after the release of course results. Students will be notified by the Graduate Programmes team to provide feedback via GSLink (“Graduate Student Feedback on Teaching”).
Vacation Leave

Full-time PhD students may be granted vacation leave of up to a maximum of 21 working days in a calendar year, subject to satisfactory academic progress of the student and approval of the School.

Students have to apply for leave via GSLink > Administrative > Leave Application for Research Students > Graduate Student Leave System (Research).

Leave of Absence

When you apply for the following categories of leave application (collectively called “Leave of Absence”), the online leave application system does not apply and you will not have access:

1. Outpatient Medical Leave
2. Hospitalisation Medical Leave
3. Maternity Leave
4. Compassionate Leave
5. Reservist /In-Camp Training
6. Leave of absence for one semester

How do you apply for these categories of leave application then?

To apply for any of the above-mentioned categories, please email your PI (and attach any supporting documents, if relevant), and cc gradprog_LKCMedicine@ntu.edu.sg.

If your application is approved, please ensure a copy is made available to gradprog_LKCMedicine@ntu.edu.sg for it to be validated and for record-keeping purposes. For the last category of leave application (i.e. item 6 “Leave of absence for one semester”), final approval needs to be sought from the PhD Programme Director (via the Graduate Programmes team).

Outpatient Medical Leave, Hospitalisation Medical Leave & Maternity Leave

A graduate research student shall be granted medical leave according to the period prescribed in the medical certificate up to a maximum total of 60 days in a calendar year, out of which Outpatient Medical Leave may be given up to a maximum of 14 days. The remaining period of medical leave permitted may be granted in the form of Hospitalisation Leave or Maternity Leave.

The medical certificate as mentioned above is to be issued in Singapore by a medical practitioner registered with the Singapore Medical Council or a dental officer registered with the Singapore Dental Council. Medical certificates issued by overseas medical practitioners or dental officers are not acceptable.

Compassionate Leave

A research student shall be granted compassionate leave of up to 3 working days on the bereavement of an immediate family member. The compassionate leave may be taken any time either consecutively or within 7 calendar days of decease date of the immediate family member. For the purpose of this provision, an immediate family member refers to student’s spouse, child, parent, parent-in-law, siblings and grandparent.
**Reservist/In-Camp Training**
Applicable to male Singapore citizens only. Students on scholarship would have their stipend paid during this period.

**Leave of Absence**
Students who are not attending any lessons in a term of study are expected to be working on their thesis/dissertation and are liable for tuition fee for that entire term, unless they are granted leave of absence for that period. Hence, students who are not attending classes and are not working on their thesis/dissertation are advised to apply for leave of absence. Otherwise, they shall be liable for full tuition fees.

A research student can only apply for leave of absence after s/he has consumed **21 days of vacation leave**. The period under leave of absence will be counted towards the permitted maximum candidature.

Stipend (for those under NTU-funded scholarships) will not be paid during the period of absence.

Application for leave of absence is subject to the approval of the School. Request for leave of absence must be submitted to the School for approval at least seven working days in advance of the leave. Reasons for the application must be clearly indicated and relevant supporting documents must be attached.

Application for leave of absence submitted after the absence period will **not** be processed, and tuition fees paid will not be refunded.

Students who are granted leave of absence after having attended lessons for more than two weeks of the term shall be liable for tuition fees for the entire term.

Students who are granted leave of absence but have not attended lessons beyond the second week of the term shall not be liable for tuition fees for the term. They will, however, be liable for an administrative fee of $53.50 for **each** term of leave granted.

Students are **not** allowed to attend any classes or submit dissertation/thesis when they are on leave of absence. Students who submit their dissertation/thesis during leave of absence shall be liable for tuition fees for the entire term.

Students who submit their dissertation/thesis for examination immediately after their leave of absence will be liable to pay the tuition fees for one semester, even if the dissertation/thesis is submitted within the second teaching week of the semester.

Full-time international students granted leave of absence for more than three months consecutively are to cancel and surrender their Student's Pass as required by Immigration & Checkpoints Authority (ICA), and re-apply for a new Student's Pass when they resume study.

Students are to inform the University at least four weeks before their return from leave, for the University to put up a re-application for their Student's Pass to ICA. International students may email One Stop @ SAC at ossac@ntu.edu.sg for further enquiries on Student's Pass or immigration matters.
Returning the Student's Pass (applicable for International Students)

You are required to return your Student's Pass to ICA when:

- You have converted to **part-time studies** or **terminated your studies** or are **taking leave of absence**.

You must report to the ICA or any ICA Immigration Exit Counter as you leave Singapore with your passport, for cancellation of your Student's Pass and Disembarkation & Embarkation Card within seven days of the cessation of studies.

Students whose Student's Passes are due to expire and are waiting for the release of their results must surrender their Student's Passes to the Student's Pass Section, ICA before the expiry of the Student's Pass. The Address is 4th Storey, ICA Building, 10 Kallang Road (next to Lavender MRT Station).

Please read Section on Cancellation of Student's Pass at [www.ica.gov.sg](http://www.ica.gov.sg) for more information. Students who surrender their Student's Passes will be granted a short stay in Singapore.

**Postgraduate Pastoral Care and Wellbeing System**

Every postgraduate student will be assigned a Postgraduate Tutor. There will usually be no change of Postgraduate Tutors, unless there are extenuating circumstances.

**Role of the Postgraduate Tutor**

**Pastoral Care and Wellbeing**

Postgraduate Tutors shall provide all-round pastoral care and wellbeing support to their assigned tutees. Tutees should be able to discuss their personal problems. These problems may range from starting a PhD programme, relationships and others.

Postgraduate Tutors could advise tutees, where appropriate, on their personal problems. However, Postgraduate Tutors are not expected to act as counsellors.

**Professional Development**

Postgraduate Tutors may provide guidance on the tutees’ professional development.

Professional development may include the drafting of a personal development plan, guidance on career development and preparation of a curriculum vitae.

Postgraduate Tutors shall meet their tutees regularly, at least once every three months.

Postgraduate Tutors shall continue to maintain and provide contact, support or advice to students, who are on an interruption of studies.
Confidentiality

Broadly speaking, information disclosed by students to their Postgraduate Tutor will be treated as confidential.

However, this confidentiality is not absolute. Postgraduate Tutors may share this information if a) the tutee consents; or b) there is a clear risk of harm either to self or others; or c) there are legal obligations.

If a student is dissatisfied with their Postgraduate Tutor, they may raise this with the Assistant Dean / Deputy Lead.

<table>
<thead>
<tr>
<th>Staff</th>
<th>Designation</th>
<th>Contact No./Email</th>
<th>Location</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dr Tanya Tierney</td>
<td>Assistant Dean, Clinical Communication Training &amp; Student Welfare</td>
<td>(65) 65923054 <a href="mailto:TanyaTierney@ntu.edu.sg">TanyaTierney@ntu.edu.sg</a></td>
<td>Medical Education, Level 6, Clinical Sciences Building, Novena Campus</td>
</tr>
<tr>
<td>Mr Emmanuel Tan Chee Peng</td>
<td>Assistant Director, Educational Development</td>
<td>(65) 65923846 <a href="mailto:emmanuel_tan@ntu.edu.sg">emmanuel_tan@ntu.edu.sg</a></td>
<td>Medical Education, Level 7, Clinical Sciences Building, Novena Campus</td>
</tr>
</tbody>
</table>

Resolving Problems and Formal Complaints

From time to time, students may wish to report a grievance related to their experience at the University. Before lodging a grievance, students should ensure that any procedures relating to the situation, including appeal, have been completed. The University is open to receive feedback and complaints in our efforts to enhance the quality of NTU graduate education.

As a general proposition, a student should first discuss the problem and seek solution with the individuals most directly involved.

If informal means of resolution prove unsuccessful, the student should detail in writing the substance of the issue, the grounds for it and evidence on which it is based, and efforts taken to date to resolve the issue. For timely resolution, a student should submit her/his report of a grievance to the Dean to reach a resolution.

Reports of grievance can also be submitted directly to the Associate Provost (Graduate Education). These will similarly be investigated by the Dean.

For a grievance pertaining to the graduate student’s supervisor, the graduate student may first seek the assistance of the external TAC member or the PhD Programme Director.

Only reports submitted by the affected student will be accepted. Students may jointly report a grievance when more than one student has been affected.
If two or more reports are received independently about the same matter, they may be considered jointly by agreement of all parties concerned.

The University recognises that timely and effective communication is critical when attempting to resolve difficulties experienced by students. A student can expect to have their report of a grievance promptly acknowledged by Graduate Programmes team.

Students must report grievances as soon as possible after the event or action which is the subject of the report. Reports that are frivolous, malicious or lacking in substance will not be investigated. Any student will not suffer discrimination or disadvantage as a direct result of reporting a grievance.

**Confidentiality**

All parties involved must maintain confidentiality about the grievance and the process (of reporting, investigation and resolution).

Information and records shall be kept confidential and only divulged to employees of the University with direct involvement in the process. The University will seek to maintain the confidentiality of all parties involved.

**Access to Campuses**

You will be issued a matriculation card which will also serve as a security pass, giving you access to parts of the campus authorised by LKCMedicine. You are required to carry your matriculation card with you at all times when on campus and at clinical sites.

To use your matriculation card to access the Experimental Medicine Building (EMB) at NTU campus at Yunnan or the Clinical Sciences Building (CSB) at the Novena campus, please complete the forms found in Annexes W and X, and submit to Operations & Resources, LKCMedicine @ Novena HQ Level 2.

To access CSB, please show your matriculation card to the security personnel on duty.

**Student Services & Support**

Please approach the Graduate Programmes team for curriculum matters.

Additionally, the NTU Student Wellbeing Centre (SWC), staffed by professional counsellors, offers a supportive environment for students seeking assistance and guidance for any personal issues or challenges.

The NTU Medical Centre at Yunnan campus provide walk-in and by-appointment medical consultations.
**Student Conference Funding**

To better equip and prepare our students for future challenges in their field, the School encourages students to attend or participate at relevant local, regional, and international academic conferences. Participation in high quality conferences provides excellent opportunities for LKCMedicine students to keep themselves up-to-date with the latest developments in their areas of research, and network with professionals and students from other institutions.

Students would be able to tap on the funding support to participate at relevant local, regional, and international academic conferences.

**Local Conference Allowance**

The School provides local conference attendance allowance of $200 per student, and local conference presentation allowance of $700 per student during their candidature at LKCMedicine.

This allowance may be used for payment of conference registration fee at approved local conferences only.

To apply for local conference presentation allowance, applicant must be the 1st or co-presenting author of an oral/poster/paper/abstract presentation.

Subject to meeting the above conditions, as applicable, the maximum number of local conference funding allocations per academic year is two.

**Overseas Conference Allowance**

Applicant must be the 1st author of an oral/poster/paper/abstract accepted for presentation at the approved overseas conference. Funding will be limited to one conference presentation per student per candidature.

The terms of conference funding:

- Reimbursement of actual economy-class return airfare* based on the lowest airfare quotation (using NTU’s appointed travel agent);
- Up to 100% of registration fee; and
- Accommodation and transportation expenses, subject to approval.

*Travel insurance fee is not covered by the School’s funding. The fee is to be borne by the student.*

The total financial funding for overseas conference is subject to a maximum quantum of funding cap as shown below:

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Maximum Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States, Canada &amp; Europe (Region 1)</td>
<td>S$2,500</td>
</tr>
<tr>
<td>Asia Pacific &amp; India (Region 2)</td>
<td>S$1,600</td>
</tr>
<tr>
<td>Other countries (Region 3)</td>
<td>S$1,000</td>
</tr>
</tbody>
</table>
Students are required to complete the Student Conference Funding Support Application form (Annex Y) with supporting documents and submit to Graduate Studies staff (for Ph.D. students) at Clinical Sciences Building, Academic Affairs Office, Level 6.

**Request for Name Cards**

If you need name cards for your local or overseas conferences, please follow the steps below:

1. Seek your PI's approval with a brief explanation the purpose of requesting the name card. Next, PI emails Assoc Prof Fabian Lim (Assistant Dean, Research) for approval.

2. Once approval is obtained, PI to raise purchase request (PR) for name cards via Ariba and name cards will be charged to respective PI's cost centre/budget.

3. The email approval from Assoc Prof Fabian Lim and the quotation (see attached sample) must be attached as supporting documents in Ariba. The vendor name to select in Ariba is “Generic”.

4. The raised PR will be routed to Procurement for all the necessary approval (process will take 2-3 weeks).

5. Once PR is approved, PI will receive a notification via email from Ariba either to approve the final process (if the PI is the cost centre/budget holder) or to inform that the PR has been approved.

6. A Purchase Order (PO) number will be generated once PR has been approved.

7. Complete the Name Card Request Form (see attached) and together with the PO number, email to Ms Jacquelynn Hor (jacquelynnhor@ntu.edu.sg) from Development, Planning and Strategic Relations (DPSR), who would then assist you with obtaining the artwork and final processing of your order.

Please note that the above steps are to be fulfilled before any issuance of name cards. The name card request form can is found on Annex Z.

**PhD Award**

The PhD Award covers administrative expenses to be paid to Imperial College London (Imperial) or other overseas universities, and the establishment of a travel grant to help defray the expenses incurred by PhD students (e.g. those on Pathway 3) who are required, as part of their LKCMedicine PhD curriculum requirement, to spend an attachment period of 12 to 18 months at an overseas university.

The PhD Award is given to one PhD student on a 12-15 month attachment and one PhD student on a longer attachment of up to 18 months in each academic year. The one-time travel allowance includes a sum for return air tickets and settling-in allowance.
<table>
<thead>
<tr>
<th>Attachment Duration</th>
<th>Quantum</th>
</tr>
</thead>
<tbody>
<tr>
<td>12 – 15 months</td>
<td>S$5,000 (including one return air ticket estimated at S$3,000 and settling-in allowance of S$2,000)</td>
</tr>
<tr>
<td>&gt; 15 months to 18 months</td>
<td>S$8,000 (including two return air tickets estimated at S$6,000 and settling-in allowance of S$2,000)</td>
</tr>
</tbody>
</table>

The recipients of the PhD Award would be PhD students who have successfully received a place under Pathway 3 in the PhD programme or where LKCMedicine PhD students are required to spend a significant part of their candidature in an overseas university.

Recipients of the PhD Award are subject to the recipient meeting the following conditions in any term of study:

a. Attain a minimum of TGPA of 3.50; and 
   b. Attain at least Grade Point 2.50 (grade C+) in every module; and 
   c. Complete all course requirements within the confirmation period as prescribed under the Qualifying Exam.

Recipients are required to submit the PhD Award application form at least 3 months before the commencement of their attachment (Annex A1) with supporting documents and submit to Graduate Studies staff at Clinical Sciences Building, Academic Affairs Office, Level 6.

**Integrated Claims System (ICS) for Students**

A new Integrated Claims System (ICS) for students with effect from 1 December 2018. The system replaces the current manual claim submission and to make submitting of claims easier for students.

Students may access the ICS system via GSLink to seek reimbursements for the following claimable items.

a) Transport-related to attending off-site engagements as required by PhD course leads 
   b) Local and Overseas Conference Funding 
   c) Graduate Student Club activities

**NOTE:**

Please use the following Centre and GL Code when you submit your claims.

Cost Centre : L020303130  
GL Code : 70702900 for Global Health Awareness Attachment, overseas conferences and PhD Award (for Pathway 3) / 70706300 for Graduate Student Club activities
Recommender : Edwin Lim
Approver : Ruth Choe

After completing your online claims, please submit the hard-copy claim documents to the Graduate Programmes team. All claims should be submitted within four months from the date of the activity/event.

The user guide for ICS is found on Annex B1 for your reference.

**LKCMedicine Emergency Grant**

To alleviate the financial constraints of students who may have a need to finance a temporary financial hardship caused by an emergency, students can apply to the LKCMedicine Emergency Grant. Eligibility will be assessed on a case-by-case basis by Academic Affairs in consultation with PhD Programme Director.

Each successful application will be awarded up to $10,000. To apply, please refer to the application form found in Annex C1. Completed forms are to be submitted to the Graduate Programmes team at Academic Affairs, CSB, Novena campus.

**Part-Time Work in NTU**

Students on the NTU Research Scholarship Scheme are not allowed to take up paid part-time employment.

Full-time international students who are not supported by scholarship and wish to work on a part-time basis must apply for permission from the International Student Centre (ISC).

All students are required to obtain support from their supervisor(s) before applying for approval through the Graduate Programmes team. For international students, they are to obtain Letter of Endorsement from ISC before commencing work.

Students who have been granted permission, may work a maximum of 16 hours a week during term time and full-time during the vacation.

**Dress Code**

During your clinical attachment (for non-clinician students), you are expected to dress professionally at all times, in a manner that will not cause offence to patients, their relatives or colleagues. Conservative dress is required in clinical settings. Please consult your clinical attachment supervisor if you are unsure of the dress code.

**Professional Conduct**

You are expected to conduct yourself in a professional manner at all times. Disciplinary action will be taken against students who have violated any University/School regulations. Expulsion is possible to students who do not adhere to the rules & regulations. Students who violate the laws of Singapore may face immediate expulsion from the University.
**Honour Code**

All students by virtue of admission to NTU are committed to uphold the Honour Code and to pledge their agreement to abide by it. You can read more about the Honour Code at [www.ntu.edu.sg/sao/Pages/HonourCode.aspx](http://www.ntu.edu.sg/sao/Pages/HonourCode.aspx)

**Responsibilities of Research Student**

1. The student shall abide by the Honour Code of Nanyang Technological University and act as a responsible member of the University’s academic community.

2. The student shall be responsible for her/his own research activities, for fulfilling the requirements of her/his higher degree programme, and for committing the necessary time and effort to complete the programme within the period stipulated by the University.

3. The student is expected to take responsibility for independent learning and demonstrate initiative to acquire the necessary skills and knowledge to work on the chosen research area.

4. The student is expected to conform to University, School and programme requirements for the degree, especially with regard to research ethics, copyright issues, registration and graduation requirements, thesis format and quality standards.

5. The student is expected to conform to basic principles of academic integrity and professionalism in the development of a mature and objective relationship with the supervisor, the Thesis Advisory Committee (TAC) members, and other scholars.

6. The student is expected to develop, in consultation with the supervisor, an intended time-table for completion of all stages of the research, and work to realise the timetable, and meeting appropriate deadlines.

7. The student is expected to meet regularly with the supervisor to review progress. The frequency of such meetings will vary according to the discipline involved and the stage and nature of the student’s work, but shall normally occur at least once a month. S/he will also interact with other members of the TAC as appropriate.

8. The student is expected to seek advice from her/his supervisor in an active manner and recognise that it is her/his responsibility to have her/his own questions to raise with the supervisor. S/he is to take the initiative in raising problems and difficulties that s/he is encountering in her/his graduate studies and research to the attention of her/his supervisor in the first instance.
9. The student is expected to contribute to the research environment of the School as appropriate by taking up opportunities to present work at seminars/conferences and engaging in discussion with other researchers. S/he is to undertake teaching or other duties as may be directed from time to time by the School to which s/he belongs to.

10. The student shall establish with the supervisor the frequency and duration of formal meetings to discuss the progress of the research, assigned readings, problems encountered, and experimental procedures or data gathering techniques.

11. The student shall document the outcomes of the meetings with the supervisor. A copy of the write-up should be given to her/his supervisor as soon as possible after each meeting.

12. The student ought to be aware of all relevant developments within the subject and read up relevant literature.

13. The student should be familiar with issues on time management, documentation, and storage of data, confidentiality, ethical, health and safety issues, intellectual property rights, integrity in research, cheating, plagiarism, falsification/tampering, and false declaration.

14. The student is expected to prepare written work and progress reports as required for comment and discussion with the supervisor and TAC members.

15. The student is expected to keep the supervisor informed of where and how s/he may be contacted, and respond appropriately to all communications received. S/he is to inform the supervisor in good time, should s/he plans to be away from the University.

16. The student is expected to take into account that the supervisor and other members of the TAC may have other teaching, research and service obligations which may preclude immediate responses.

17. The student is expected to give serious consideration and respond to the advice and criticism received from the supervisor and the TAC.

18. The student is expected to decide when to submit the thesis taking due account of the opinion of the supervisor, which is necessarily only advisory and whose agreement to submission is not a guarantee of success. The supervisor shall be provided with a complete draft of the thesis in an agreed reasonable time to provide comment and feedback. The endorsement of the TAC has to be obtained before the thesis can be submitted for examination.

19. The student is responsible to arrange the meetings with his TAC on a regular basis and the outcome of these meetings can be incorporated into the student’s progress reports.
20. At least two weeks before each meeting of the TAC, the student must provide each member with a written statement, about two-three pages in length, of her/his progress from the last meeting and plans for the following months. This will include self-development activities such as participation in relevant courses, seminars and conferences. Each member of the committee shall also receive a copy of the previous committee report and the student’s previous progress report.

Health & Safety

Working in Laboratory After Office Hours
Students are advised not to work alone in the laboratory after office hours for safety reasons. S/he must be accompanied by the supervisor or another research student.

Accident and Incident Reporting
All accidents/near misses on campus and clinical sites must be reported immediately to a senior staff present and also to:

- the faculty if the student is on campus;
- the Clinical Supervisor if the student is on clinical placement; and
- the LKCMedicine Health and Safety Department.

Working in Clinical Areas
Students are to check with their clinical attachment supervisor(s) on the kinds of vaccination needed before commencing attachment.

Personal effects, e.g. bags and coats, should not be taken into treatment areas, including patient bed areas. Remove wrist watches and jewellery before commencing any activity that may contaminate such items.

Students are to adhere to the infection control regulations in place, e.g. hand washing protocol or personal protection equipment regulations.

Fire Alarms and Building Evacuations
Students are to familiarise themselves with the location of fire escape routes, emergency exits, AED equipment and evacuation protocols on both campuses and at clinical placement sites. Students are not to attempt to deal with a fire themselves or re-enter an area in which there is a fire, chemical spillage or other significant hazard.

Graduate Student Club

The LKCMedicine Graduate Student Club aims to serve as the official body that seeks to represent the interests of LKCMedicine graduate students and articulate these interests to the School Management and University Administration in the best possible manner.

It also acts to improve the student life of LKCMedicine graduate students by playing a key role in the support, organisation, and management of initiatives, which include, but may not be limited to, academic, social, cultural, sporting, industrial, career-related purposes and foster a strong working relationship between the graduate student population and the School Management/University Administration.
The current Management Committee of the LKCMedicine Graduate Student Club is as follows:

President: Miss Jeannie Lee Xue Ting
Vice President: Mr Wee Soon Keong
Honorary General Secretary: Mr Quek Jun Ping
Treasurer: Miss Ng Tze Hui Krystle Joy
Events Director: Mr Low Zun Siong

The Graduate Student Club room can be found on the 8th floor of the Clinical Sciences Building, which includes a lounge and club space. This room is accessible to all LKCMedicine graduate students.

**Parking Facilities**

*Novena Campus*

Students who are driving may park at the Novena Campus car park lots which are marked in white. You may enter the carpark via the entrance along Jalan Tan Tock Seng.

Due to the limited number of lots available, parking will be on a first-come-first-serve basis. Parking lots marked in red and red/white are reserved for staff. The hourly parking charges are as follows:

<table>
<thead>
<tr>
<th>Time</th>
<th>Charges</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>6 am to 6 pm Mondays to Fridays</td>
<td>$0.02/min</td>
<td>5 lots (white) will be designated for parking by students / public.</td>
</tr>
<tr>
<td>After 6 pm Mondays to Fridays, Saturdays, Sundays and Public Holidays</td>
<td>Free</td>
<td>Open for students / public in any available lots, except red coloured lots.</td>
</tr>
</tbody>
</table>

To enjoy the above parking rate, please register one car with the School by emailing your car plate number and IU number to Graduate Programmes team at her/his. Each student is only allowed to register one car.

During official events, the car park may be reserved and students can park at the car parks listed below (subject to availability and applicable car park charges):

- Tan Tock Seng Hospital;
- National Skin Centre (NSC);
- NSC’s open car park at junction of Mandalay/Martaban Road; or
- URA car park lots along Mandalay Road.
Yunnan Campus
Information on parking in NTU Campus can be found at the Office of Housing & Auxiliary Service website - http://www.ntu.edu.sg/has/Carparks/Pages/index.aspx

Withdrawal from PhD Programme

Students who wish to withdraw from their PhD programme should write in to Office of Academic Services, through their Supervisor and PhD Programme Director.

Information contained in this handbook is correct at the point of posting (25 June 2019)
ERI701 is a research integrity course with 0 AUs that is applicable to new PhD and Masters (Research) students who join NTU from **AY2018/19**. Existing graduate research students will continue to complete ERIC prior to QE following current Schools’ processes.

### ERI701: Epigeum Research Integrity Course (ERIC)

<table>
<thead>
<tr>
<th>Duration</th>
<th>8 hrs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Applicability</strong></td>
<td></td>
</tr>
<tr>
<td></td>
<td>New PhD and Masters (Research) students enrolled from AY 2018/2019</td>
</tr>
<tr>
<td></td>
<td>Full time and part time.</td>
</tr>
<tr>
<td><strong>Enrolment</strong></td>
<td>New students auto-enrolled to course by OAS</td>
</tr>
<tr>
<td><strong>Access</strong></td>
<td>Students to access course via NTULearn, and choose <strong>1 of 5 tracks</strong> within course site, as advised by School / supervisor.</td>
</tr>
<tr>
<td><strong>Passing Criteria</strong></td>
<td>100% score for module quizzes, 80% for Standard Course Quiz and 80% for Track-specific Quiz.</td>
</tr>
<tr>
<td></td>
<td>Multiple attempts permitted</td>
</tr>
<tr>
<td><strong>Completion</strong></td>
<td>Course to be completed by first semester failing which student will be assigned an “F” grade which is reflected in transcript.</td>
</tr>
<tr>
<td></td>
<td>Students who fail will be auto-enrolled in Sem 2</td>
</tr>
<tr>
<td></td>
<td>Course carries 0 AUs.</td>
</tr>
<tr>
<td><strong>Validity</strong></td>
<td>Certification valid for 3 years, after which ERIC-Concise is needed.</td>
</tr>
<tr>
<td></td>
<td>(Details available at a later date.)</td>
</tr>
</tbody>
</table>

Schools/Supervisors are to guide students on tracks to be selected and make known requirements during orientation and/or on their websites.

<table>
<thead>
<tr>
<th>Track</th>
<th>Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Biomedical Sciences</td>
</tr>
<tr>
<td>2</td>
<td>Natural and Physical Sciences</td>
</tr>
<tr>
<td>3</td>
<td>Engineering and Technology</td>
</tr>
<tr>
<td>4</td>
<td>Social and Behavioural Sciences</td>
</tr>
<tr>
<td>5</td>
<td>Arts and Humanities</td>
</tr>
</tbody>
</table>
14 Jan 2019
ERI701 site opens

Students sign up for course track based on School / Supervisor recommendation

Student reviews course content and completes the 5 module quizzes

Schools schedule 2 proctored exams and inform RIOE of schedule

19 Apr 2019
ERI701 site closes (23:59)

Students to attend exam and complete remaining quizzes via lock down browser

a. A student’s training requirement is met if he/she completes at least one track though multiple tracks can be attempted.

b. If a student is required to take additional tracks after achieving a Pass grade for the course at the end of their first semester, the student can still register for other tracks on NTULearn (RI-ERIC) though course grade will not be reflected on exam transcript.

1 ERI701 will feature course content, module quizzes and trial quizzes upon release; it will exclude standard and track-specific quizzes.

2 For proctored exams, students access examination course site via Lockdown Browser either through their personal laptops or computer lab PCs.
This guide is meant for graduate research students enrolled in course ERI701 from Jan 2019. Students are to seek the advice of School representatives or consult with supervisors so as to confirm the relevant track that is to be completed.

1) Access ERI701 via NTULearn. This is reflected under NTULearn / Courses.

2) Upon clicking on the course link above, the course site shown below loads:

3) Click on “Sign Up” found on the left navigation panel and the page with 5 courses list loads. Click on “Sign Up” under the relevant track, e.g. Arts and Humanities Track.
4) You will be redirected to the Sign Up sheet. Click Sign Up.

5) Page on Group Properties loads:

6) Click on Course Modules located on the left navigation panel. The track(s) you have registered for is(are) listed on the Course Modules page. Click on track to commence review of track content.
7) After reviewing the content for this track, return to the ERI701 course page on NTULearn. Click on Quizzes and Survey located on the left navigation panel to commence module quizzes. Each student can attempt a module quiz only after the previous quiz is completed. E.g. to attempt Module Quiz 2, a student must score 100% on Quiz 1. There are a total of 5 module quizzes per track.

8) Following completion of module quizzes, you will be required to sit for the final 2 quizzes, (a) Standard Course Quiz and (b) Track-Specific Quiz during a proctored exam which will be scheduled by your School. Please contact your School Representative for the exam schedule.

9) At least 80% score is required for each of the final quizzes to pass this course; multiple attempts are permitted during the examination. You are encouraged to practice these quizzes via the trial quiz module on the ERI701 course site prior to your final exam. To access the trial quizzes, click on “Trial Quizzes” located on the left navigation panel. The Standard Course Trail Quiz and Trial Track Quiz will be listed for practice.
PhD Award Application Form

The PhD Award covers administrative expenses to be paid to Imperial College London (Imperial) or other overseas universities, and a travel grant to help defray the expenses incurred by PhD students (e.g. those on Pathway 3) who are required, as part of their LKCMedicine PhD curriculum requirement, to spend an attachment period of 12 to 18 months at an overseas university.

Please read the guidelines in Annex A before filling in the form.

Please submit your application at least 3 months before the commencement of your attachment.

Please complete Part I and return to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg.

Part I: To be completed by Student

<table>
<thead>
<tr>
<th>Name of Student:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matriculation No.:</td>
</tr>
<tr>
<td>Commencement Date:</td>
</tr>
<tr>
<td>Thesis Title:</td>
</tr>
</tbody>
</table>

Name of Primary Supervisor:

Name of Co-Supervisor(s):

I have completed all course requirements and passed my Qualifying Examination within the confirmation period.

YES ☐ NO ☐

Name of ICL Faculty or other overseas university faculty:

Faculty:

Please state the purpose of the attachment (include a separate page if needed)

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________
Attachment Duration

12 – 15 Months ☐  >15 – 18 Months ☐

Declaration:
I, the above named, wish to inform the School that I have:
   discussed the progress of my candidature with my supervisor(s), and he/she/they has/have agreed that I am ready for the attachment and would be required to return to Singapore to complete my main project at LKCMedicine and prepare my thesis for submission.

Signature of Student

Date

Part II: Recommendation by Supervisor

I support and recommend / do not support and recommend the student for the overseas attachment.

Comments

Name and Signature:

Date:
Part III: Approval from PhD Programme Director

I **approve / do not approve** the overseas attachment.

**Amount Awarded**

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Amount Approved (S$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.</td>
<td>administrative expenses to overseas universities (if applicable)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>a) Bench Fee (lab and facilities access)</td>
<td></td>
</tr>
<tr>
<td></td>
<td>b) Running Costs (lab consumables, etc.)</td>
<td></td>
</tr>
<tr>
<td>2.</td>
<td>One-time travel allowance</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**

---

Name and Signature                     Date

---

Part IV - To be Completed by LKCMedicine Finance Staff

Comments/Remarks regarding Grant Amount (and any other necessary details):

---

Received by                      Date: (dd/mm/yy)
Disbursement Approval Given by  (Name and Signature)  Date: (dd/mm/yy)

Job Title/Position:
The PhD Award covers administrative expenses to be paid to Imperial College London (Imperial) or other overseas universities, and the establishment of a travel grant to help defray the expenses incurred by PhD students (e.g. those on Pathway 3) who are required, as part of their LKCMedicine PhD curriculum requirement, to spend an attachment period of 12 to 18 months at an overseas university.

As a guide, the administrative expenses to be paid to Imperial on behalf of the student, is estimated to be S$13,875 per student per year. The breakdown in the estimated administrative expenses is as follows:

<table>
<thead>
<tr>
<th>Item</th>
<th>Cost per annum</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bench Fee (lab and facilities access)</td>
<td>£2,500</td>
</tr>
<tr>
<td>Running Costs (lab consumables, etc.)</td>
<td>£5,000</td>
</tr>
<tr>
<td><strong>Total</strong></td>
<td><strong>£7,500</strong></td>
</tr>
<tr>
<td><strong>S$13,875</strong></td>
<td><strong>S$13,875</strong></td>
</tr>
</tbody>
</table>

Table 1: Break-down of administrative expenses

The one-time travel allowance includes a sum for return air tickets and settling-in allowance.

<table>
<thead>
<tr>
<th>Attachment Duration</th>
<th>Quantum</th>
</tr>
</thead>
<tbody>
<tr>
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<tr>
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<td>S$8,000 (including two return air tickets estimated at S$6,000 and settling-in allowance of S$2,000)</td>
</tr>
</tbody>
</table>

Table 2: Quantum of travel allowance for different attachment duration

The PhD Award is given to one PhD student on a 12-15 month attachment and one PhD student on a longer attachment of up to 18 months in each academic year.

Qualification

The recipients of the PhD Award would be PhD students who have successfully received a place under Pathway 3 in the PhD programme or where LKCMedicine PhD students are required to spend a significant part of their candidature in an overseas university. The PhD Award is not needs-based.

Recipients of the PhD Award are subject to the recipient meeting the following conditions in any term of study:

a. Attain a minimum of TGPA of 3.50; and
b. Attain at least Grade Point 2.50 (grade C+) in every module; and
c. Complete all course requirements within the confirmation period as prescribed under the Qualifying Exam.
Application for Course Exemption

This form is required to seek the School’s approval for PhD students who wish to apply for course exemption.

Students seeking course exemption are required to fulfill the following requirements:

i. Must have completed at least one (1) semester of coursework in NTU.
ii. Must have attained at least a TGPA and CGPA of 3.5 for last semester of study.
iii. Must have attained at least grade point 2.5 (C+) in every course taken for all courses.

The Academic Unit to be exempted in NTU must not be greater than the Academic Unit you had completed previously. The maximum number of courses allowed for exemption is ONE.

Please complete Parts I and II before submitting it to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg. Please fill in “Nil” or “NA” where applicable.

<table>
<thead>
<tr>
<th>Part I: To be completed by Student</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name of student: __________________ Matriculation no.: ____________</td>
</tr>
<tr>
<td>Commencement date: ____________ CGPA* to-date: ____________</td>
</tr>
<tr>
<td>*Please attach academic records printed from GSLink</td>
</tr>
</tbody>
</table>

**Section I: Course Exemption Details**

1. **Course to be exempted**

   Course code and title: __________________
   Academic Unit: __________________

2. **Course taken in Master’s Degree Programme**

   Course title: __________________
   Marks or grade obtained: __________________ Academic Unit: __________________
   University: __________________

3. Please answer the following:
   
   i. Course was conducted in English ☐ Yes ☐ No
   ii. Proof that the course was conducted in English is attached (not applicable to NTU/NUS courses) ☐ Yes ☐ No
   iii. The course syllabus is attached ☐ Yes ☐ No
   iv. Please highlight the significant similarities between the NTU course (Point 1 above) and the course used for exemption (Point 2 above):

   ___________________________________________________________
v. The course used for exemption must be relevant to your research.  
☐ Yes  ☐ No

vi. I fulfill the requirement for combined total number of courses allowed for exemption, credit transfer and ‘Pass/Fail’. I am aware that I will still need to fulfill the School’s course requirements if my request for exemption is successful.  
☐ Yes  ☐ No

<table>
<thead>
<tr>
<th>Signature of Student</th>
<th>Date</th>
</tr>
</thead>
</table>

**Part II: Recommendation from Supervisor**

Student’s request of course exemption is **recommended / not recommended**.

**Comments:**

<table>
<thead>
<tr>
<th>Name and Signature of Supervisor</th>
<th>Date</th>
</tr>
</thead>
</table>

**Part III: Approval from PhD Programme Director**

The application is **approved / not approved**.

**Comments:**

<table>
<thead>
<tr>
<th>Name and Signature</th>
<th>Date</th>
</tr>
</thead>
</table>
User Guide for Integrated Claims System (ICS) Student
# Table of Contents

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1. Introduction

1.1 Business Objective

- Integrated Claims System (ICS) for student is designed to provide one-stop service to allow Students to submit reimbursement claim or overseas travel claim
- Incorporate NTU claims policies and guidelines
- Streamlining of claims processing to achieve greater efficiency

1.2 Roles in ICS

- Claimant
- Verifier
- Recommender (Maximum 2 Levels)
- Approver
- AP Verifier
- AP Approving Officer
2. **Create New Claim**

2.1 **Reimbursement Claim (REIM)**

The general reimbursement claim consists of one claim type:

- General purchases/Taxi/Others Claim

1. Click on the 'Reimbursement Claim'.

2. Select the Claim Type.

   - General purchases/Taxi/Others Claim
3. Click ‘Add Claim Item’ to enter claim details.

4. Enter the claim details:
   a) Description: Purpose of purchases, claims etc.
   b) Currency Code: Default is Singapore. Please choose other currency code if required.
   c) Exchange Rate Type: Please select one of the followings:
      i) System Rate (Default)
      ii) Credit card statement Rate
      iii) Money Changer Receipt Rate
   d) Exchange Rate: Exchange rate
   e) Date of Receipt: Choose the receipt date
   f) Invoice/Receipt No: Invoice/receipt no. (System will check for duplicate invoice/receipt no)
   g) Total Receipt Amount: Total receipt amount in receipt's currency. Inclusive of GST (if any)
Integrated Claims System User Guide

h) GST Rate(%): Select one of the followings:
   i) NA (Default)
   ii) 5
   iii) 7 (Present GST Rate)

i) GST Amount: System will display the GST amount based on the GST rate (%) selected under GST Rate

j) Total Receipt Amount (S$): Total receipt amount in local currency (SGD)

k) Remarks/Justifications: It is mandatory to enter “Justifications” if Total Receipt Amount (S$) is above S$6,000.

5. Click on 'Add Charging Account' to enter charging details.
You may charge the amount to multiple charging accounts (Cost Centre/WBS).

i) Type the keyword of Cost centre or WBS e.g. M020, EEE to list the Cost centre or WBS

ii) Type the keyword of GL account e.g. 70200, Software to list the GL account

iii) Enter the Amount to be charged to the Cost centre/WBS

Note: If you are unable to find the cost centre or WBS from the list, it is likely the delegation of authority for this cost centre / WBS is yet to be setup. Please contact the school/department administrator for assistance.

6. Click 'Save' to save the details.

7. After you have saved your claim and charging accounts, click 'Close' to return to the main claim page.
8. Claim item details or charging account details can be edited using the edit icon as shown below.

<table>
<thead>
<tr>
<th>Description</th>
<th>Date Of Receipt</th>
<th>GST</th>
<th>Total Amount(S$)</th>
<th>Charging Account</th>
<th>GL Code</th>
<th>Amount(S$)</th>
<th>Edit</th>
<th>Delete</th>
<th>Copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxi to airport</td>
<td>02-JUL-2018</td>
<td>95.29</td>
<td>2,001.00</td>
<td>M020150010</td>
<td>70306700</td>
<td>2,001.00</td>
<td>![Edit Icon]</td>
<td>![Delete Icon]</td>
<td>![Copy Icon]</td>
</tr>
</tbody>
</table>

9. Copy the claim items using the copy icon as shown below

- New Claim item with the same data

<table>
<thead>
<tr>
<th>Description</th>
<th>Date Of Receipt</th>
<th>GST</th>
<th>Total Amount(S$)</th>
<th>Charging Account</th>
<th>GL Code</th>
<th>Amount(S$)</th>
<th>Edit</th>
<th>Delete</th>
<th>Copy</th>
</tr>
</thead>
<tbody>
<tr>
<td>Taxi to airport</td>
<td>02-JUL-2018</td>
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<td>2,001.00</td>
<td>M020150010</td>
<td>70306700</td>
<td>2,001.00</td>
<td>![Edit Icon]</td>
<td>![Delete Icon]</td>
<td>![Copy Icon]</td>
</tr>
<tr>
<td>Taxi to airport</td>
<td>02-JUL-2018</td>
<td>95.29</td>
<td>2,001.00</td>
<td>M020150010</td>
<td>70306700</td>
<td>2,001.00</td>
<td>![Edit Icon]</td>
<td>![Delete Icon]</td>
<td>![Copy Icon]</td>
</tr>
</tbody>
</table>

10. Delete the claim items using the delete icon.

11. For file attachment, please upload receipts or supporting documents by clicking on 'Browse' to select the file(s) to be uploaded, then click 'Upload'. The uploaded files will be displayed.

![Attachments]

Maximum file size allowed is 2MB.

<table>
<thead>
<tr>
<th>No</th>
<th>Documents</th>
<th>Action</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>text.txt</td>
<td>![X]</td>
</tr>
</tbody>
</table>

12. Under the 'Approver Routing' section, the Recommender/Approver name will be displayed as per Delegation of Authority (DOA) setup for the charging account (Cost Centre/WBS).

NOTE:
a) If you need assistance on the DOA, please contact your school/department administrator or NSS AP team.

13. If your school/department has assigned a Verifer to verify the claim, the verifier’s name will be displayed. If there are more than one verifier in your school/department, you will need to select a verifier from the drop-down list to verify your claim.

14. After selecting the Verifer, Recommender and Approver, click 'Submit' to submit the claim or 'Save' to save it as draft.

Please submit original invoices/receipts to Student Life & Support at either
1) Level 1, Administrative Office, EMB
2) Level 6, Education Management Office, CSB

Please select either of the Recommender(s) as follow:
1) Lim Qiu Li
2) Cheng Hui Yee
3) Nicole Sharon Lee
Approver to be Ivis Wee.
2.2 Overseas Travel Claim (OTCS)

The general overseas travel claim consists of 3 claim type:

- Conference
- Others
- Visa / Attachments

1. Click 'Overseas travel claim'.

2. Select the Claim For.
   - Conference

ICS provides the following features:

1. On-line automated platform for Student Reimbursement claims
2. Easy tracking on the status of each claim
3. Incorporate NTU claims policies and guidelines
4. Streamlining of claims processing to achieve greater efficiency
3. Click on 'Add Claim Item' to enter your claim details.

4. Enter the Claim details:
   a) Claim Item: Select Claim Item
      - Airfare
      - Registration Fee
      - Subsistence Allowance
      - Others
      - Accommodation
      - Visa
      - Airport Transfer (Local)
      - Public Transport (Overseas)
   b) Receipt Amount: Enter the receipt amount
   c) Currency Code: Default is Singapore. Please choose other currency code if required.
   d) Exchange Rate Type: Please select one of the followings:
      i) System Rate (Default)
      ii) Credit card statement Rate
      iii) Money Changer Receipt Rate
   e) Exchange Rate: Exchange rate
f) Claim Amount(S$): Total receipt amount in receipt's currency. Inclusive of System rate (if any)

g) Remarks: Enter remarks if required

Note:

(i) If the Subsistence Allowance is selected for Claim Item, the following additional fields should be entered.
   - Grant Mode: Select Grant Mode
     - Percent(%) – for smaller payments in percentage
     - Lump sum – for smaller payments in SGD
   - Value(S$): Values should be in SGD or percentage based on the selected Grant Mode
   - Date of Official Duties: From and to dates should be within the range of selected dates for Date of Travel

(ii) If Others is selected for Claim Item, Others field should be entered
5. Click on 'Add Charging Account' to enter charging details. You may charge the amount to multiple charging accounts.
   
i) Type the keyword of Cost centre or WBS e.g. M020, EEE to list the Cost centre or WBS
   
ii) Type the keyword of GL account e.g. 70200, Software to list the GL account
   
iii) Enter the Amount to be charged to the Cost centre/WBS
   
   Note: If you are unable to find the cost centre or WBS from the list, it is likely the delegation of authority for this cost centre / WBS is yet to be setup. Please contact the school/department administrator for assistance.

6. Click on 'Save' button to save the details.
7. After you have saved your claim and charging accounts, click 'Close' to return to the main claim page.

8. Claim item details or charging account details can be edited using the edit icon as shown below.

9. Copy the claim items using the copy icon as shown below.

10. Delete the claim items using the delete icon.
11. For file attachment, please upload receipts or supporting documents by clicking on 'Browse' to select the file(s) to be uploaded, then click 'Upload'. The uploaded files will be displayed.

12. Under the 'Approver Routing' section, the Recommender/Approver name will be displayed as per Delegation of Authority (DOA) setup for the charging account (Cost Centre/WBS).

   NOTE:
   a) If you need assistance on the DOA, please contact your school/department administrator.

13. If your school/department has assigned a Verifier to verify the claim, the verifier's name will be displayed. If there are more than one verifier in your school/department, you will need to select a verifier from the drop-down list to verify your claim.

14. After selecting the Verifier, Recommender and Approver, click 'Submit' to submit the claim or 'Save' to save it as draft.

Please submit original invoices/receipts to Student Life & Support at
1) Level 1, Administrative Office, EMB
2) Level 6, Education Management Office, CSB
3. View Draft Records

1. Click 'Drafts' to view a list of saved claim forms.

2. The saved forms can be viewed here.

3. To edit the form, click on the 'Edit' icon as shown below.
4. To submit multiple forms at a time, choose the forms and click 'Submit' button as shown below.
4. **View Claim Records**

- This option will list all the Submitted and Draft claims.
- For submitted claims that are pending endorsement, you may withdraw or re-route the form.

1. Click 'Claim records'.

2. All the submitted and draft claim forms will be listed.

4.1 **Withdraw submitted Claims**

Students can withdraw the submitted claims before approver approves the Claim.

- To withdraw a form, click on the 'Withdraw' icon as shown below.
Enter the withdrawal remarks and click 'Withdraw' button.

4.2 Re-route submitted Claims

To re-route the submitted form to another Verifier/Recommender/Approver

Click on the 'Re-route' icon as shown below.
• Select the Verifier name to be re-routed then click 'Submit.'

<table>
<thead>
<tr>
<th>Charging Account</th>
<th>GL Code</th>
<th>Claim Amount(S)</th>
<th>Verifier</th>
<th>Recommender1</th>
<th>Recommender2</th>
<th>Approver</th>
</tr>
</thead>
<tbody>
<tr>
<td>M201500010</td>
<td>71000000</td>
<td>1.000.00 Rate</td>
<td></td>
<td></td>
<td></td>
<td>Alvin</td>
</tr>
</tbody>
</table>

• If only one verifier is there, then the Claim record cannot be re-routed to the other Verifier.

• If more than one recommenders/approvers are available for the Charging account then only Student can select the other recommenders to re-route.
EXEMPTION REQUEST FORM
HWG702 University Teaching for Teaching Assistants

To apply for an exemption from HWG702 you should complete the following form and submit it with the appropriate documentary evidence to your School's Graduate Office for endorsement by the Head/Dean/Director of the College/School.

After you have submitted the form, the procedure is as follows:

1. School's graduate office will submit the endorsed copy to TLPD.
2. Head, TLPD or assigned personnel will ascertain the equivalence of the supporting documents and provide final recommendation of the exemption request.
3. TLPD will send a scanned copy of the form to the respective School/ OAS.
4. OAS will advise on deregistration of student from the course.
5. TLPD keeps the original hard copy of the document at its office for record.

Criteria for Exemptions for HWG702:

1. Documentary evidence of successful completion of an equivalent course in university teaching at another university or equivalent institution (such as an Institute of Education). This may include diplomas, masters, or other degrees specifically in higher education teaching and learning.
2. Each application for exemption will be assessed to ascertain that the qualification is current and relevant to teaching and learning at higher education.

Note: As this is a formal course on higher education pedagogy, previous teaching experience alone will not be regarded as sufficient grounds for exemption.

Full Name: ________________________________
Matriculation No.: __________________________
School: ________________________________
Email: ________________________________
Mobile No. : ________________________________

I. Supporting Documents for exemption (by student):

________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________

________________________________________________________________________

Signature of student ___________________________ Date ___________________________
II. Endorsement by School:

I agree/ do not agree * with the course exemption of the student. Reason (if any):

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name/School/Designation Signature Date

III. Recommendations by Head of Programme

I recommend/ do not recommend * the course exemption of the student. Reason (if any):

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name/Designation Signature Date

IV. Approval by Head, TLPD

I approve/ do not approve * the course exemption of the student. Reason (if any):

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name/Designation Signature Date
# LKCMedicine Emergency Grant Application Form

## Notes to Applicants:

1. Please complete and submit this form to the Graduate Studies team who will forward your application to the PhD Programme Director / Vice-Dean (Education) for review.
2. Please enclose all relevant substantiating documents before you submit your application.
3. Only students facing sudden personal crises affecting their financial needs such as family bereavement, disability, illness or other personal catastrophe may apply for the LKCMedicine Emergency Grant.
4. Please note that you may be required to have a meeting with the PhD Programme Director or Vice-Dean (Education) to facilitate the processing of your application.
5. All information provided will be kept private and confidential.

## To be Completed by Student

### 1. Personal Particulars

Name: ____________________________ Matriculation Number: ____________________________
Year of Matriculation: ___________ Email Address: ____________________________
Contact Number: ________________
Supervisor’s Contact Number (applicable to PhD student): ____________________________
Supervisor’s Email (applicable to PhD student): ____________________________

### 2. Particulars of Next-of-Kin (NOK) / Emergency Contact (EC)

NOK / EC Name: ____________________________ Relationship: ____________________________
Contact Number: ________________ Email Address: ____________________________

### 3. Emergency Grant Details

Please give details about your circumstance(s):
### 4. Acknowledgement
I accept full responsibility to ensure that the information provided is accurate. I understand that my application will not be approved if I do not submit a complete application form with the relevant required documents.

| Signature: __________________________ | Date of Submission: ______________ |
| Name: ______________________________ | (dd/mm/yy)                          |

---

#### To be Completed by LKCMedicine Staff

Comments/Remarks regarding Grant Amount (and any other necessary details):

| Received By: ________________________ | Date Received: ________________ |
| Grant Approved? | Yes | No | (dd/mm/yy) | Grant Amount Awarded: ____________________ |

If No, Reason(s) for Not Approving:

| Approval Given by: __________________ | Date Confirmed: ________________ |
| (Name and Signature) | (dd/mm/yy) | Job Title / Position: ____________________ |

---

#### To be Completed by LKCMedicine FINANCE Staff

Comments/Remarks regarding Grant Amount (and any other necessary details):

| Received By: ________________________ | Date Received: ________________ |
| Disbursement Approval Given by: __________________ | Date Confirmed: ________________ |
| (Name and Signature) | (dd/mm/yy) | Job Title / Position: ____________________ |
EXEMPTION REQUEST FORM
HWG707 COMMUNICATING RESEARCH IN THE MEDICAL SCIENCES

Please note that you are required to complete the following form and submit it with the appropriate documentary evidence to your School's Graduate Office for endorsement, in order to apply for exemption from this course.

After you have submitted the form, the procedure is as follows:

1. The School's Graduate Office will submit the endorsed copy to the Language and Communication Centre (LCC).
2. LCC will check the supporting documents and provide the final recommendation for exemption based on these documents.
3. LCC will send a scanned copy of the form to the School's Graduate Office and OAS.
4. The School's Graduate Office will keep you updated on the outcome of this application in due course.

Exemptions will only be considered for those students who have attended similar courses or have published journal papers in their field.

PART 1 (TO BE COMPLETED BY STUDENT)

Full Name : _____________________________
Matriculation Number : _____________________________
School : _____________________________
Email : _____________________________
Mobile No : _____________________________
Supporting documents for exemption : _____________________________________________
________________________________________
________________________________________
________________________________________
________________________________________
________________________________________
________________________________________
________________________________________

________________________________________
Signature of Student _____________________________
Date _____________________________
PART 2 (ENDORSEMENT BY THE SCHOOL’S GRADUATE OFFICE)

I agree/do not agree* with the course exemption of the student. Please state reason (if any):

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name/School/Designation ___________________ Signature _______________ Date __________

PART 3 (RECOMMENDATION AND APPROVAL BY LCC COORDINATOR)

I agree/do not agree* with the course exemption of the student. Please state reason:

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name/ Designation ___________________ Signature _______________ Date __________

*please delete accordingly.
<table>
<thead>
<tr>
<th>New Course Title</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>Type: Core or Elective</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Details of Course</th>
<th>Summary of course content</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Rationale for introducing this course</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Aims and objectives</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Syllabus</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Assessment</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>Final Examination:</td>
<td>60%</td>
</tr>
<tr>
<td>Participation, assignments and attendance</td>
<td>20%</td>
</tr>
<tr>
<td>Term Paper</td>
<td>20%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Total:</th>
<th>100%</th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Proposed Date of Implementation (specify academic year and semester)</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Mode of Teaching</th>
<th></th>
</tr>
</thead>
</table>

<table>
<thead>
<tr>
<th>Hours of Contact/Academic Units</th>
<th>Example</th>
</tr>
</thead>
<tbody>
<tr>
<td>39 hours for 3 AU</td>
<td></td>
</tr>
</tbody>
</table>
SECTION A  To the Student:

1. A candidate who was absent from an examination on account of illness is to submit this medical report to One Stop @ SAC, 50 Nanyang Avenue, NS3-01-03 Academic Complex North within two (2) working days of absence from the examination.

2. You must complete Section A of this form before you present it to the certified medical practitioner attending to you. It is your responsibility to arrange for the medical practitioner to complete Section B of the form and to ensure that the form reaches One Stop @ SAC, 50 Nanyang Avenue, NS3-01-03 Academic Complex North within two (2) working days of absence from the examination. If a medical certificate has been issued to you, please submit it to One Stop @ SAC, 50 Nanyang Avenue, NS3-01-03 Academic Complex North within two (2) working days of absence from the examination. This report does not replace the medical certificate. You must submit the original medical certificate in addition to this report.

3. The medical certificate should cover the period of examination absent.

Name Matriculation No.

Course(s) in which you were absent or requesting special consideration (e.g. B6121)

1. 
2. 
3. 

I hereby authorise release of this medical report to the Nanyang Technological University.

Signature: ___________________ Date: ___________________ Contact No: ___________________

SECTION B  To the Medical Practitioner:

The above-named student is required by University regulations to submit a medical report detailing the nature of the illness that has caused him/her to be absent from an examination or has affected his/her performance. As the student’s medical practitioner, please furnish us a written report of the illness by completing Section B. Please fax it to 67931140 or mail it to Office of Academic Services, Nanyang Technological University, Student Services Centre, Level 2, 42 Nanyang Avenue, Singapore 639815. Your report is confidential and the student should not be permitted to view the report. All charges incurred in relation to this report are to be paid by the student. Thank you for your cooperation.

a) The abovenamed student sought medical attention on: (date) __________________________

b) Was a medical certificate issued (please tick)?
   ☐ No    ☐ Yes, valid from ______________________ to ______________________

c) Nature of illness or complaint (Please provide a brief description)
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

   __________________________________________________________

   __________________________________________________________

d) Would the student’s condition affect his/her ability to sit for an examination?
   ☐ No    ☐ Yes, please explain:
   __________________________________________________________
   __________________________________________________________
   __________________________________________________________

Signature of Medical Practitioner completing form: ___________________________ Date: ______________________

Hospital/Clinic Stamp: (compulsory)
# LKCMedicine PhD Research Project Submission Form

## Research Theme (Please indicate as appropriate)

| ☐ | Dermatology & Skin Biology |
| ☐ | Family Medicine & Primary Care |
| ☐ | Health Systems & Population Health |
| ☐ | Infection & Immunity |
| ☐ | Metabolic Disorders |
| ☐ | Neuroscience & Mental Health |
| ☐ | Medical Education |
| ☐ | Others (Please specify): |

## Research Project Title:


## Project Description:


## Brief summary of main Methodologies and/or Techniques to be learned during the proposed PhD (experimental or analytical):


## Keywords:


## Supervisor(s)

### Primary Supervisor
Name of Supervisor: 
Designation: 
Email: 

### Co-Supervisor *(need not be determined at this time)*
Name of Supervisor: 
Designation: 
Email: 

---

## Main Location of Research Work *(Please indicate as appropriate)*

- [ ] LKCMedicine Experimental Medicine Building @ Yunnan Campus
- [ ] LKCMedicine Clinical Sciences Building @ Novena Campus
- Others (Please specify):  

---

## Other Information

1. Does the proposal need IRB’s approval?  
   - [ ] Yes  
   - [ ] No
   
   If “Yes”, is the IRB’s approval in place?  
   - [ ] Yes  
   - [ ] No

2. Does the project involve contact with patients?  
   - [ ] Yes  
   - [ ] No

3. Does the project involve contact with animals  
   - [ ] Yes  
   - [ ] No
   
   If “Yes”, is the NTU Institutional Animal Care and Use Committee approval in place?  
   - [ ] Yes  
   - [ ] No

4. Is there a potential for overseas academic exchange as part of this research project?  
   - [ ] Yes  
   - [ ] No
   
   If “Yes”, please specify:  
   
   """
Proposed Research Topics and Supervisors for Lab Rotations

This form is required to seek the School’s approval for lab rotations. Please submit the completed form to gradprog_LKCMedicine@ntu.edu.sg within two months from enrolment.

The purpose of the lab rotation is to provide exposure for non-clinician students to a range of different research themes available in LKCMedicine. The first lab rotation refers to the lab and PI whom you have indicated in your PhD programme application. The second lab rotation is to be decided after you have consulted your PI (of the first lab rotation).

You are required to nominate a primary supervisor and co-supervisor for the first lab rotation and a supervisor for the second lab rotation.

All non-clinician students are required to undertake two four-month lab rotations. The lab rotations have to be conducted over two different Research Themes within LKCMedicine.

Students who are undertaking non-lab-based projects in Family Medicine and Primary Care and Health Systems and Population Health research themes, are allowed to complete two projects within the same theme but with different supervisors.

Any exception request will be evaluated on a case-by-case basis. Please provide justification in this form for exception request.

After completing each lab rotation/project, students are required to submit a report, in the form of a scientific paper to gradprog_lkcmedicine@ntu.edu.sg within two weeks for evaluation at the PhD Qualifying Examination in due course.

### LAB ROTATION 1

<table>
<thead>
<tr>
<th>Name of student:</th>
<th>Matriculation no.:</th>
<th>Commencement date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Project Title:</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

#### Research Theme:

(Please tick accordingly)

- Metabolic Disorders
- Neuroscience and Mental Health
- Health Systems and Population Health
- Infection and Immunity
- Dermatology and Skin Biology
- Others, please specify:

#### Lab Rotation Supervisor:

- I’ve obtained consent from the Lab Rotation Supervisor to work on the above project.
# LAB ROTATION 2

**Project Title:**

**Research Theme:**
- ☐ Metabolic Disorders
- ☐ Infection and Immunity
- ☐ Neuroscience and Mental Health
- ☐ Dermatology and Skin Biology
- ☐ Health Systems and Population Health
- ☐ Others, please specify: ______

(Please tick accordingly)

**Lab Rotation Supervisor:** ______

☐ I’ve obtained consent from the Lab Rotation Supervisor to work on the above project.

**Justification** *(applicable to exception request only)*:

____________________________________________________________________________________________________________________________________________________________

____________________________________________________________________________________________________________________________________________________________

Signature of Student ______ Date ______

Signature of Lab Rotation Supervisor ______ Date ______

## Part II: Approval from Supervisor

I support and recommend / do not support and recommend the above lab rotations.

**Comments:**

____________________________________________________________________________________________________________________________________________________________

____________________________________________________________________________________________________________________________________________________________

Name and Signature: ______ Date: ______
## Part III: Approval from PhD Programme Director

The lab rotation is **approved / not approved**.

**Comments:**

<table>
<thead>
<tr>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
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<td></td>
</tr>
</tbody>
</table>

Name and Signature: ________________  Date: ________________
1. Declaration of Conflict of Interest

1.1 To ensure security of the IT systems and impartiality in the examinations, all academic and non-academic staff who are involved in any exam process shall declare, through an online portal, whether they have any closely related kin studying in NTU.

1.2 The declaration exercise shall be carried out on a yearly basis.

1.3 An email shall be auto triggered to all relevant staff at the commencement of the new academic year.

1.4 In the event of no conflict of interest to declare, staff shall submit a “NIL” confirmation.

1.5 For temporary staff who have no access to the online portal, they shall submit their declaration using the hardcopy form (Appendix A).

1.6 Any positive declaration submitted shall be assessed by the School Chairs, Deans or Directors to determine whether special arrangements are required.

2. Schedule of Activities for Examinations

2.1 OAS shall issue the Schedule of Activities for Examinations on per semester basis to all schools before the commencement of the new semester in the academic year.

2.2 The schedule will provide the dates/deadline to schools for the following key activities:

- Submission of list of course examiners and invigilators
- Submission of exam papers for OAS’s printing
- Access period to Graduate Marks Entry System
- Submission of final marks lists to OAS
- Release of exam results to students
- Submission of requests to review results by students and the outcomes by Schools

3. Logistics preparation

3.1 OAS shall book the venues for all examinations before the start of the academic term.

3.2 OAS shall provide copies of the examination timetable, hall plans and scope of work to Office of Development & Facilities Management (ODFM) at least one month before the takeover of the examination venues.
3.3 The scope of work to ODFM spells out the general requirements for each examination venues before, during and after the examination period which include:

- Provide chairs and desks in good condition and arrange them according to the hall plan.
- Ensure that all lighting, power points, air-conditioning system and PA system are in working order.
- Maintain cleanliness of the examination venues.
- Ensure no performing of noisy work in the vicinity of the venues that could disrupt the examinations.
- Transport examination answer booklets.

3.4 On the takeover day of the examination venues, OAS shall check through the scope of work to ensure all are satisfactorily done.

4. Examination timetabling

4.1 For examinations conducted by OAS, schools shall plan and submit their examination timetable according to the examination dates and capacity allocated to them by OAS.

4.2 To ensure optimum use of the available but limited resources, the following factors shall be considered during the planning process:

- Spread out the timetabling of core courses and electives for each programme of study.
- Minimize as much as possible examination timetabling clashes for courses registered by students.
- Maximize the capacity of the examination venues for each examination session though recommended to leave a few seats empty for unforeseen circumstances.

4.3 Examination duration for each examinable course shall be 3 hours unless prior approval has been obtained.

4.4 Generally, all courses with formal examination shall be included into the examination timetable with the following exceptions:

- Special request from schools to conduct the examinations outside the prescribed examination period due to the small number of students in class, other commitments of the overseas lecturers, etc.
- Self-financing programmes, if applicable.

4.5 In the event of examination timetabling clashes, OAS shall work with the relevant schools and offices/departments to arrange quarantine examinations for the affected student(s).

4.6 OAS shall inform students once the examination timetable is made available on GSLink for viewing. Students are responsible to check their examination timetable via the GSLink.
5. Confidentiality & guidelines for setting of examination papers

5.1 School staff involved in preparing the examination papers shall exercise due diligence and care to safeguard the confidentiality of the papers. All copies of the examination papers shall be kept under lock and keys at all times until disposal.

5.2 School staff shall ensure that all examination papers are properly disposed of after the end of examination period. Copies that are kept in electronic storage devices shall also be diligently deleted.

5.3 School staff shall refrain from discussing possible examination questions with students.

5.4 Schools to set examination papers in accordance to the Guidelines for Examination Question Papers.

6. Storage, safeguarding & printing of examination papers

6.1 Schools shall submit by hand the master copy of the examination papers to OAS in a sealed envelope by the deadline stipulated in the Schedule of Activities. The sealed envelope should carry the security seal of the schools.

6.2 A copy of the duly endorsed ‘Submission of Examination Papers to OAS’ (Appendix B) should be submitted to OAS together with the examination papers.

6.3 OAS shall check the examination papers for correctness in format and clarity for printing. Any examination papers that require amendments shall be conveyed to schools for follow up. The incorrect copy shall be crossed out, kept separate from the rest of the examination papers and properly disposed of after the end of examination period.

6.4 OAS shall handover the examination papers to the assigned vendor for security printing.

6.5 Quantity of the examination papers to print shall correspond to the number of students registered for the course, with a surplus of at least 4 copies (to be placed in the examination venue). OAS shall provide a DVD of the examination papers to Library after the end of examination period.

6.6 Printed examination papers are delivered to OAS in sealed packages. Torn or tampered packages without OAS security stickers and OAS examination officer’s endorsement on them, warrant investigation to ensure no leakage of the questions before the examination.

6.7 All examination papers, whether printed or not printed, shall be kept under lock and keys at all times except during printing.
DECLARATION FOR STAFF WHO HAVE RELATIVES STUDying IN NTU

To ensure security of the IT systems and impartiality in the examinations, staff (including temporary staff) who have family members or other relatives studying in NTU are required to provide the relevant information in the table below. The School’s Chair will determine whether the nature of the relationship calls for special arrangements to be made.

<table>
<thead>
<tr>
<th>S/N</th>
<th>Student’s Particulars</th>
<th>Relationship to staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Name</td>
<td>Programme/Year</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Name & Designation of Staff

Signature & Date of Declaration

FOR OFFICIAL USE ONLY

Comments/Recommendations by Chair’s Office

Name of Chair

Signature & Date

OAS – Updated Jul 2017
I. Submission of Examination Papers to OAS

Academic Year: __________  Exam Period: __________

School: ____________________________

<table>
<thead>
<tr>
<th>Programme of Study</th>
<th>Course Code/Title</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example MSc(Computer Control &amp; Automation)</td>
<td>1. EE6203 - Computer Control Systems</td>
</tr>
<tr>
<td></td>
<td>2. EE6205 - Real Time &amp; Embedded Systems</td>
</tr>
<tr>
<td>MSc(Electronics)</td>
<td>1. EE6306 - Digital IC Design</td>
</tr>
<tr>
<td>Total no. of papers</td>
<td>3</td>
</tr>
</tbody>
</table>

The exam papers indicated above are in order and ready for OAS’s printing.

______________________________  __________________________
Chair/ Associate Chair                  Date

II. Acknowledgement by OAS

The exam papers listed in Part I above have been received by OAS.

______________________________  __________________________
OAS Staff                          Date
1. **Schedule**

Chair or Dean of Schools shall ensure that the deadline as specified in the Schedule of Activities for Examinations is adhered to so as not to delay the printing of the question papers.

2. **Security**

   i. All personnel handling the question papers shall exercise due diligence and care to safeguard the confidentiality of the papers. The contents of the question papers shall be kept **SECRET** at all stages of their preparation.

   ii. The question papers shall be kept under lock and keys at all times.

   iii. Master copy of the question papers shall be submitted by hand to OAS.

   iv. For the delivery of question papers by staff who is not involved in the preparation of the examination papers, the papers must be placed in a sealed envelope affixed with the security stickers.

3. **Typing, Checking and Packing**

   i. Schools shall type and check that the question papers are in order.

   ii. Master copy of each question paper shall be sealed up in an individual window envelope which reveals only the headings of the examination (refer to 6.2). Envelopes with eyelets (with string) should not be used as it will leave rust stains on the master copy.

   iii. Papers shall be printed from the master copy as prepared and submitted by the schools. Thus, the master copy of the question papers must be printed clearly and on a single side.

4. **Material**

   All question papers, diagrams and tables shall be typed or printed on white A4 size paper of at least 80 gsm.

5. **Length of Question Paper**

   In general, the duration of each written examination for a graduate paper is 3 hours.
6. Format

A consistent format in the layout of all question papers is essential so that students can follow a standard pattern of instructions.

The following format shall be adopted, with a sample provided in Appendix A for reference:

6.1 Margin

Each page shall have a margin of at least 2.5 cm on all sides.

6.2 Headings

The headings shall be positioned in a way that can be fully displayed in the window of the examination envelope.

6.3 Instructions

i. Total number of questions and pages.

ii. Total number of questions to be answered and from which section(s).

iii. Marks allocated for the different sections/questions.

iv. To indicate if it is an Open Book or Restricted Open Book examination, if applicable. For Restricted Open Book Examination, to list out the materials that are allowed.

v. Use of Reference Materials (e.g. mathematical tables), if applicable.

vi. Clear instruction on the use of appendices (if provided).

i.e. the appendices are for reference only or to be submitted together with the answer scripts when certain questions are attempted.

vii. If an examination paper is not to be removed by students after the examination, the following instruction shall be printed:

THIS PAPER MUST NOT BE REMOVED FROM THE EXAM HALL
6.4 Questions

6.4.1. Numbering System

The numbering of questions, sections, tables and drawings should be uniform and in continuous sequence throughout the question papers.

6.4.2. Allocation of Marks

Marks shall be indicated at the end of each question or part of the question so that student would be able to apportion their time accordingly.

Total marks for the entire paper must add up to 100.

6.4.3. Review of Examination Questions and Answers

A guide to review examination questions and answers is provided in Appendix B.

6.5 Pagination

i. Page numbering should be in one continuous sequence in Arabic numerals at the bottom centre of the page.

Example: 1, 2, 3, etc. from page 1 to the last page including the appendix, if any.

ii. Course code of the paper to be indicated at the top right corner on every page, e.g. B6011, M6234.

iii. Appendices or diagrams given on separate sheets shall also have course code and page numbering indicated in the required positioning.

Any appendix or diagram that is to be submitted together with the answer scripts shall be separated from the question paper and shall have the words “Matriculation Number” printed at the top centre of each page for students to write their matriculation number.

iv. Where the layout of tables or diagrams is in landscape format, the positioning of the course code and page numbering shall remain as per the portrait format.

v. If a question including table, diagram or figure continues on to the next page, the following note shall be printed on the bottom left corner of the page:

Note: Question No. 2 continues on Page 3

6.6 End of Paper

The following note shall be printed after the last question:

END OF PAPER
7. Reference Materials
   i. Reference materials such as appendices, mathematical tables and data sheets shall be printed in advance by the schools. If they are to be incorporated into the question paper, they should not exceed 5 pages.

   ii. Drawings of diagram or sketches shall be done in black ink. Diagrams photocopied from books must be clear and clean. They should be properly aligned and not slanted.

   iii. Examiner for the course shall be responsible to bring the reference materials to the examination venues and to collect them back at the end of the examination as deemed necessary.

8. Printing (*applicable to self-financing programmes only*)
   i. Question papers shall be printed in a secluded area where only authorized personnel have access.

   ii. Printed question papers shall be immediately sealed up in envelopes with security stickers affixed on the envelope flap.

   iii. All question papers, whether printed or not printed, shall be kept under lock and keys at all times except during printing.
INSTRUCTIONS

1. This paper contains SIX (6) questions and comprises THREE (3) pages.

2. Answer ALL questions.

1. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
   xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

   (10 marks)

2. (a) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

   (10 marks)

   (b) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

   (6 marks)

   (c) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
  xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

   (10 marks)

Note: Question No. 2 continues on page 2.
MT6101

(d) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxx

(13 marks)

3. xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxx

(10 marks)

4. (a) (i) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(ii) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(iii) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxx

(6 marks)

(b) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx

(2 marks)

(c) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxx

(2 marks)
5. (a) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(5 marks)

(b) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(4 marks)

(c) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(6 marks)

6. (a) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(5 marks)

(b) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(5 marks)

(c) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx

(3 marks)

(d) xxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxxx
xxxxxxxxxxxxxxxxxxxxxx

(3 marks)

END OF PAPER
Appendix B - next page.
CHECKLIST FOR REVIEW OF EXAMINATION QUESTIONS AND ANSWERS

Course Code & Title: _____________________________________  
(to be completed and signed by Moderator and Assoc Chair/Chair of School)

<table>
<thead>
<tr>
<th>Yes</th>
<th>No</th>
<th>NA</th>
</tr>
</thead>
</table>

1. **CONTENTS**
   - Appropriate coverage and adequate distribution of topics covered by syllabus.
   - Sufficient time for reading of questions and attempting solutions, e.g.
     - less than 10 pages of question papers.
     - approximately 25 to 30 minutes for solution of one question for a typical case of answering 4 out of 6 questions.
   - Minimum overlap between or among questions set in the paper.
   - Answers/solutions to the questions are correct.

2. **COMPLEXITY**
   - Balanced spread of questions or sub-questions with progressive level of difficulties and challenges.
   - Appropriate emphasis on questions to test candidate's ability to think rather than to regurgitate information, and to exercise judgement/decision rather than perform routine calculation.

3. **MARKS**
   - Equitable allocation of marks according to the level of difficulty or duration of working.
   - Equitable distribution of marks with respect to the topics covered in the course.

4. **PRESENTATION**
   - Clarity: Instructions and questions are self-contained and unambiguous. All symbols or terminologies are clearly defined/explained.
   - Correctness: Free from misprints, errors of punctuation, omissions of data, symbols and numbers and other inaccuracies.
   - Consistency: All symbols or terms used in the same question paper are consistent/uniform.
   - Standardisation: All units, symbols, terms and abbreviations follow the SI system, except where international practice proves otherwise.
   - Drawings: All figures are drawn properly with dimensions/units correctly shown.
5. **ORIGINALITY**

- Avoid questions too closely resembling the tutorial problems.
- Refrain from directly copying from textbook questions.
- Minimise repetition of questions set in previous years.

6. **OTHER REMARKS** (if any)

   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________
   ____________________________________________________________

   Signature of Moderator  ______________________  School  ______________________
   Name  ______________________  Date  ______________________

7. **COMPATIBILITY** (TO BE COMPLETED BY ASSOC CHAIR/CHAIR OF SCHOOL)

   The examination paper is compatible with that of other courses in terms of contents, complexity and originality.

   Signature  ______________________
   Name  ______________________
   Designation  ______________________  Date  ______________________
GRADUATE EDUCATION EXAMINATION
Guidelines for Conducting of Examinations

1. Nomination of invigilators

1.1 The schools shall assign the invigilator for each of the courses with written examination.

1.2 Once approved by the School Chair’s Office, the lists of nominated invigilators will be submitted to OAS by the deadline stipulated in the Schedule of Activities for Examination.

1.3 OAS shall key the nominated invigilators into the system to capture the invigilation duty count for faculty members. All entries shall be keyed in by the deadline given by Undergraduate Education counterpart. The invigilation duty for self-financing programmes is not included into the duty count for faculty members.

1.4 OAS shall assign the Chief Invigilator for each examination session. As a general guide, the Chief Invigilator should be a faculty member who is familiar with the University and its examination system.

2. Notification of invigilation duty

2.1 OAS shall notify invigilators of their assigned invigilation duty via email at least one month before the start of the examination period.

2.2 Instructions to Chief Invigilator, Invigilator and Examination Candidates are posted on StaffLink which is accessible by all NTU staff.

2.3 Invigilators who are not faculty members shall be notified of their duty by the school concerned. The school will also provide them with a copy of the Instructions to Chief Invigilator, Invigilator and Examination Candidates.

2.4 OAS shall remind invigilators of their assigned invigilation duty via email at least one week before the start of the examination period.

3. Examination seating arrangement

3.1 Each student shall be allocated a seat for the examination he is sitting for.

3.2 OAS shall plan the seating arrangement of each examination session in such a way to minimize disruption whilst the examination is ongoing. Some factors to consider include different examination duration, type of examinations (e.g. open book or closed book), etc.

3.3 Individual seat number shall be generated by the system according to examination session, examination venue, course code and students’ matriculation number.

3.4 OAS shall inform students once the seating arrangement is made available on GSLink for viewing. Students are responsible to check their seating arrangement and re-confirm other examination details (date, time and venue) via the GSLink.
4. Handing over of examination papers

4.1 All printed examination papers are kept under lock and keys in OAS strong room.

4.2 Before the start of each examination session, OAS examination officer shall draw out the required examination papers in its sealed package and hand them over to the OAS staff who are on duty at the respective examination venues.

4.3 OAS staff on duty shall acknowledge receipt of the examination papers (Appendix A) and safeguard them throughout the delivery to the examination venues.

4.4 OAS staff on duty shall hand over the examination papers to the Chief Invigilator who shall acknowledge receipt of them (Appendix A).

5. Performing invigilation

5.1 Chief invigilators and invigilators shall report to the assigned examination venues at least half an hour before the start of the examination.

5.2 Chief invigilator shall be responsible to receive the examination papers from the OAS staff on duty.

5.3 Invigilators shall assist the chief invigilator in distributing the examination papers and place them facing down onto the individual desks before the start of the examination. They shall also assist the chief invigilator to ensure the smooth running of the examination session.

5.4 In the event that the chief invigilator does not turn up for duty in time, OAS staff on duty will contact OAS examination officer who will identify the next most appropriate faculty member at the hall to take over the duties of the chief invigilator. The OAS examination officer shall follow up with the school concerned.
ACKNOWLEDGEMENT FOR HANDING OVER OF EXAM QUESTION PAPERS

Venue : EXAMINATION HALL 15
Date/Start Time : 29-APR-2014 (TUE) 9:30 AM
Courses : 1) CV7501 MEMBRANE SCIENCE & TECHNOLOGY
          2) EE7101 INTRODUCTION TO INFORMATION & CODING THEORY
          3) ES6126 ALGORITHMS TO ARCHITECTURES
          4) HE9003 ECONOMETRICS II
          5) MA7231 ADVANCED HEAT & MASS TRANSFER
          6) MAS710 CONTINUOUS METHODS
          7) MS7020 ADVANCED TOPICS IN POLYMER CHEMISTRY

I. ACKNOWLEDGEMENT BY THE STAFF HANDING OVER THE QUESTION PAPERS

I hand over to you the Examination Question Papers for the courses indicated above:-

Name of Staff : ___________________________ School/Department : ___________
Signature of Staff : ______________________ Date : ___________

II. ACKNOWLEDGEMENT BY THE STAFF COLLECTING THE QUESTION PAPERS

I acknowledge receipt of the Examination Question Papers for the courses indicated above:-

Name of Staff : ___________________________ School/Department : ___________
Signature of Staff : ______________________ Date : ___________

III. ACKNOWLEDGEMENT BY THE STAFF HANDING OVER THE QUESTION PAPERS TO CI

I hand over to you the Examination Question Papers for the courses indicated above:-

Name of Staff : ___________________________ School/Department : ___________
Signature of Staff : ______________________ Date : ___________

IV. ACKNOWLEDGEMENT BY THE CHIEF INVIGILATOR

I acknowledge receipt of the Examination Question Papers for the courses indicated above:-

Name of CI : _____________________________ School/Department : ___________
Signature of CI : ________________________ Date : ___________
1. Examination absentees

1.1 GSO shall collect back and check through the attendance lists for examination absentees. All examination absentees are keyed into the system for record.

1.2 A student who is absent from an examination on medical ground should submit the medical report and original medical certificate to One Stop@SAC within two (2) working days of absence from the day of examination.

The medical certificate must be issued by a medical practitioner who is registered with the Singapore Medical Council.

1.3 A student who is unable to sit for an examination due to reasons other than medical and would like to request for special consideration, should submit an appeal letter together with the supporting documents to One Stop@SAC within two (2) working days of absence from the day of examination.

Example: A student is being sent by his company for overseas assignment during the examination period. He is to produce his company’s letter certifying his overseas assignment and his air ticket.

1.4 GSO shall receive the documents from One Stop@SAC, collate and key the reasons into the system before generating the examination absentees report.

1.5 GSO shall forward the examination absentees report and all supporting documents received to the respective schools for decision.

1.6 If the schools support and accept the reason and supporting documents submitted by the students, the following grade shall be awarded for the course:

- Absent grade – absent on medical ground
- Withdraw grade – absent due to other valid reasons

1.7 A student who falls sick during the examination session is considered to have sat for the examination. Any supporting documents received for such cases shall be forwarded to the schools for their consideration.

1.8 A student who withdraws from the programme of study after examination seat number has been generated by GSO, would be deemed to have sat and failed the examination. His withdrawal request will only be processed after the release of examination results.

2. Marking of examination answer scripts

2.1 Schools shall ensure that the marking of the examination answer scripts is consistent for all students.
2.2 School Chairs or Deans shall assign an independent group of staff to be the checkers of the marked examination answer scripts. This independent group of staff must not include the staff who marked the examination answer scripts.

2.3 All answer scripts are to be marked in red ink.

3. Mark entry processing

3.1 Schools shall key in the preliminary marks into the Graduate Mark Entry System and print out the mark lists to ensure that all entries are correct.

3.2 Schools shall use the generated mark lists for their Board of Examiner (BOE) meeting where the overall performance will be reviewed and discussed. Where necessary, marks may be moderated upon clearance by the BOE.

3.3 Schools shall print out the finalized mark lists for final checking and approval by the School Chairs or Deans or their assigned. Thereafter, the approved mark lists are to be delivered by hand to GSO for transferring.

3.4 GSO shall transfer the examination results from the Graduate Mark Entry System into the students' records in the examination system.

4. Release of examination results

4.1 Upon checking that all examination results are in order, GSO shall proceed to release the examination results according to the Schedule of Activities for Examination.

4.2 Students shall be informed via their NTU email account to check and print their examination results through the GSLink.

4.3 Examination results shall be blocked for the following cases:
   - Student under investigation by the Board of Disciplinary
   - Student who is in debt with the University (otherwise than as a result of a loan made by the University)

5. Appeal for review of examination results

5.1 Students shall be given deadline to submit their appeal for review of examination results through the online system.
   - Semester examinations – 2 weeks from the date of examination results release
   - Trimester examinations – 1 week from the date of examination results release

5.2 GSO shall collate all requests and send them to the schools for review. Only requests with payment made shall be processed.
5.3 Schools shall carry out the review by checking through the student's examination answer script to ensure that all questions have been duly marked and the computation of all marks is correct. The review does not involve re-marking of the answer script, unless certain parts of the answer have been missed out in the original marking.

5.4 Schools shall inform GSO of the outcome for all requests.

5.5 For those with no change in the examination results, GSO shall notify the students via their NTU email account.

5.6 If there is any change to the marks, schools shall put up a report to justify the change and any corrective measures to adopt to prevent such recurrence. GSO shall put up the report to Associate Provost (Graduate Education) for approval.

5.7 Upon approval to change the marks, GSO shall update the revised marks into the student’s records and inform student accordingly. Arrangement will also be made to refund the payment to the student.

6. Retention of examination answer scripts

6.1 Examination answer scripts shall be kept by the respective schools for a minimum period of one year.

6.2 Examination answer scripts shall be kept under lock at all times until disposal.

6.3 Examination answer scripts shall be kept in a central location and managed by the schools in-charge of the programme of study.

6.4 Examination answer scripts should not be kept by the respective course examiners or any individual staff member.

6.5 Schools shall ensure that all examination answer scripts are properly disposed of after the retention period.

Approved by : Prof Yue Chee Yoon, Associate Provost (Graduate Education)

Office Responsible : Graduate Studies Office
Grade Point Average (GPA) System

From academic year 2005-06, a new Grade Point Average (GPA) system of grading will be adopted.

The GPA system is applicable to all students admitted in academic year 2005-06 and thereafter.

Students who were admitted in academic year 2004-05 and earlier are not affected by the requirements of the new GPA system, except that the letter grades will be applicable to them with effect from academic year 2005-06. The letter grades are: A+, A, A-, B+, B, B-, C+, C, D+, D, F.

1. Definition of Grade Point Average

1.1 Term Grade Point Average (TGPA)

TGPA represents the grade point average of all subjects attempted by a student in any term of study.

\[
TGPA = \frac{\text{SUM of (Grade Point x AU* for subject attempted in the term)}}{\text{Total AU* attempted in the term of study}}
\]

Term refers to semester, trimester or quarter as defined periods of study in each programme.

1.2 Cumulative Grade Point Average (CGPA)

CGPA represents the grade point average of all subjects attempted by a student.

\[
CGPA = \frac{\text{SUM of (Grade Point x AU* for subject attempted to date)}}{\text{Total AU* attempted to date}}
\]

*AU = Academic Unit: Each subject is assigned a certain number of AU. It is a measure of the student's workload associated with both class attendance and preparation.

1.3 The TPGA and CGPA will be reflected in students' transcript of academic records.

2. Gradings and Calculations for Grade Point Average

2.1 Grades With Grade Point

<table>
<thead>
<tr>
<th>Letter Grade</th>
<th>Grade Point</th>
<th>Marks Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>A+</td>
<td>5.00</td>
<td>85-100</td>
</tr>
<tr>
<td>A</td>
<td>5.00</td>
<td>80-84</td>
</tr>
<tr>
<td>A-</td>
<td>4.50</td>
<td>75-79</td>
</tr>
<tr>
<td>B+</td>
<td>4.00</td>
<td>70-74</td>
</tr>
<tr>
<td>B</td>
<td>3.50</td>
<td>65-69</td>
</tr>
<tr>
<td>B-</td>
<td>3.00</td>
<td>60-64</td>
</tr>
<tr>
<td>C+</td>
<td>2.50</td>
<td>55-59</td>
</tr>
<tr>
<td>C</td>
<td>2.00</td>
<td>50-54</td>
</tr>
<tr>
<td>D+</td>
<td>1.50</td>
<td>45-49</td>
</tr>
<tr>
<td>D</td>
<td>1.00</td>
<td>40-44</td>
</tr>
<tr>
<td>F</td>
<td>0.00</td>
<td>0-39</td>
</tr>
</tbody>
</table>

These letter grades (exclude grade point) are also applicable to all current students with effect from academic year 2005-06.

The marks range is strictly confidential and it is not to be disclosed to students at any time. This allows Schools the flexibility of moderating the grading standards.
3.2 Students in Research Programmes

3.2.1 Graduation Requirements

For graduation, a research student has to fulfill the following conditions:

i. Successful completion of all requirements as prescribed by the programme of study or School; and

ii. After completion of all subject requirements, a minimum CPGA of 3.00 and 3.50 must be attained for Master's students and PhD students respectively.

3.2.2 Satisfactory Academic Performance

In any term of study, a research student is considered to be making satisfactory progress if he satisfies the following conditions:

i. Attain a minimum TGPA of 3.00 for Master's students and 3.50 for PhD students, and

ii. Attain at least Grade Point 2.50 (grade C+) in every subject; and

iii. Complete all subject requirements within the following stipulated period:

<table>
<thead>
<tr>
<th>Period to Complete Subject Requirements</th>
<th>Master</th>
<th>PhD</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Full-Time</td>
<td>Part-time</td>
</tr>
<tr>
<td>1 year</td>
<td>1 year</td>
<td>2 years</td>
</tr>
</tbody>
</table>

3.2.3 Poor Academic Performance

A research student with poor academic performance will be subjected to the following actions:

<table>
<thead>
<tr>
<th>Research Programme</th>
<th>Academic Warning (Issued by School)</th>
<th>Termination of Financial Aid* and/or Candidature. (The letter is issued by the Graduate Studies Office.*)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Master</td>
<td>i. TGPA &lt; 3.00 in any term of study of study; or ii. Any subject with Grade Point less than 2.50 (below C+)</td>
<td>i. Fail to complete all subject requirements within the stipulated period as spelled out in para 3.2.2 iii; or ii. TGPA &lt; 2.50 in two consecutive terms; or iii. TGPA &lt; 3.00 in three consecutive terms.</td>
</tr>
<tr>
<td>PhD</td>
<td>i. TGPA &lt; 3.50 in any term of study of study; or ii. Any subject with Grade Point less than 2.50 (below C+)</td>
<td></td>
</tr>
</tbody>
</table>

* For financial aid that is administered by the School, the letter will be issued by the School.
Global Health Awareness Attachment

Students are required to attend up to two weeks of a Global Health Awareness attachment in a developing country. This is designed to give non-clinician students, exposure to global health issues faced by developing and developed countries.

Please select one of the following options:

a) Undertake the attachment at Christian Medical College (CMC), Vellore, India.
b) Undertake the attachment at Siriraj Hospital, Mahidol University, Bangkok, Thailand.
c) Jointly organise and participate in an Overseas Community Involvement Programme (OCIP) with MBBS students.
d) Attend relevant global health courses conducted by various healthcare institutions in Singapore.
e) Exemption from Global Health Awareness attachment
f) Arrange your choice of Global Health Awareness attachment

Please refer to Annex A for details of option a to f.

A report of 1-2 pages to be submitted to LKCMedicine Graduate Studies Office within 2 weeks from completion.

Part I: To be completed by Student

Name of student: ____________________________

Matriculation no.: __________________________ Commencement date: _____________

My preferred choice of the Global Health Awareness attachment is
(Please indicate as appropriate)

☐ a) Undertake the attachment at Christian Medical College (CMC), Vellore, India.
☐ b) Undertake the attachment at Siriraj Hospital, Mahidol University, Bangkok, Thailand.
☐ c) Jointly organise and participate in an OCIP with MBBS students.
☐ d) Attend short courses relevant to global health in Singapore
☒ e) Exemption from Global Health Awareness attachment

☒ f) Arrange my own choice of Global Health Awareness attachment

1 Please attach a course outline to this form for the School’s evaluation
2 Please attach working experience or other forms of experience in a healthcare system in a developing country outline to this form for the School’s evaluation
3 Please attach a summary of the programme and cost estimate for the School’s evaluation. Any special request is subject to the School’s approval on a case by case basis at its discretion.

__________________________________________  _____________________________
Signature of Student                                      Date

Part II: To be completed by PhD Programme Director

Student’s choice is **approved / not approved**.

Comments:

________________________________________________________________________

________________________________________________________________________

__________________________________________  _____________________________
Name and Signature                                      Date
Introduction to the Choices of Global Health Awareness Attachment

a) Attachment at Christian Medical College (CMC), Vellore, India

General Information
The Christian Medical College Vellore Association is a private inter-denominational Christian organization. The object of the Association is the establishment, maintenance and development of a Christian Medical College in India where women and men shall receive an education of the highest grade in the art and science of Medicine and Nursing or in one or other of the related professions, to equip them in the spirit of Christ, for service in the relief of suffering and the promotion of health. The medical college is affiliated to the Tamil Nadu Dr. M.G.R.Medical University, Chennai, India.

The Christian Medical College & Hospital community is made up of an interesting and diverse group of people - students and faculty come from all over India and a number of other countries, such as Sri Lanka, Malaysia, Hong Kong and Singapore. Elective students and volunteer workers come from Australia, Britain, USA, Germany, France, Sweden, Denmark and New Zealand. This interchange between varied people and cultures has been found to be mutually beneficial. It is hoped that you too will find it so and that your time in Vellore will be enjoyable and satisfying.

Visitor Observation
You will undertake the attachment as a “Visitor Observer”. You will observe the various activities in the hospital and in the community to understand the measures adopted by the community to prevent diseases and promote health. You will also have the opportunities to visit laboratories to understand different cultural and community perspectives to health prevention and promotion.

Costs
a. The 2-week observership fee is Rs 8,000 (approx. $172). The fee is payable upon arrival at CMC via credit/debit card or in cash (Indian rupees).

b. Living expenditure per day is approximately Rs.600 (approx. $13) which includes room rent, food and other expenses.

c. Return airfare is approximately S$550 - S$600

d. Visa fees, if applicable

Application Duration
Approximately 3-4 months
b) Attachment at Siriraj Hospital, Mahidol University, Thailand

**General Information**

Established in 1888, The Faculty of Medicine Siriraj Hospital is the first and oldest hospital and medical institute in Thailand. It is also recognized as one of the biggest hospitals in Southeast Asia.

As a leading institute of medicine and public health in Thailand accredited with international standards, The Faculty of Medicine Siriraj Hospital is committed to provide top quality and exemplary medical services to improve health and welfare of Thai people. It also consistently ranks among the top in Thailand for biomedical research with increasing amount of funding and publications each year. Research interests are focused on local as well as global health problems. The faculty also offers state-of-the-art research facilities and ample opportunities for researchers around from around the world.

c) Overseas Community Involvement Programme (OCIP)

MBBS students organize an OCIP fair at EMB in every September. At the fair, a series of programmes which will be conducted in the coming academic year will be presented to all LKCMedicine students. Interested students can sign up for the programme at the fair. Shortlisted candidates will be invited for an interview with the organising committee to determine suitability for joining the programme. Upon confirmation, students will be assisting the MBBS students in organising the OCIP trip.

d) Attend global health courses

Students would be required to check with various healthcare institutions in Singapore on courses available and sign up for such courses.

e) Exemption from Global Health Awareness attachment

Students can be exempted from Global Health Awareness attachment if they are able to provide documentary proof of working experience or other forms of experience in a healthcare system in a developing country outline.

Students are to submit their documents at least three months in advance to Graduate Studies team for assessment in consultation with A/Prof Yeo.

f) Self Arrangement of Global Health Awareness attachment

A set of learning outcomes would help determine if a proposed attachment location is relevant and appropriate. The following proposed learning outcomes could apply and be used to assess if a proposed attachment location is suitable:
i. To understand the measures adopted by the community to prevent diseases and promote health.

ii. To understand the different cultural and community perspectives in ill-health prevention and health promotion.

iii. To acquire a deep knowledge and appreciation of both translatable and translational medical research methods, including identifying how one’s research can be translatable to alleviating healthcare problems in the community/country of attachment.

iv. To understand the different healthcare needs of developed and developing countries (including rural areas).

v. To recognise the differences between the healthcare systems of Singapore and the country selected for attachment and identify areas for improvement.

vi. To recognise the different challenges in the provision of healthcare services and in meeting future healthcare needs between Singapore and the country selected for attachment.

To achieve the above learning outcomes, the student should seek to be attached to a laboratory or health care facility relevant to the student's respective research area, and have ample opportunities for the student to share his/her area of research at the host institution.

The learning outcomes of the attachment would be spelt out in the template in Appendix I where every learning activity during the attachment would be accompanied by the corresponding learning objective(s).

**Risk Assessment and Emergency Evacuation Plan**

Student safety is paramount and each attachment location should have a risk assessment and emergency evacuation plan in place before any student proceeds with the attachment. The following would make up the plan (please refer to Appendix II for template) for each attachment location:

i. Emergency Contacts
   - This would include the contact person, contact number and address of the nearest medical facility, nearest hospital, local contact, local mentor, International SOS, Insurance, overseas partner and Singapore Embassy/High Commission.

ii. Area of Concern for each Activity
   - A student/staff would oversee any area of concern for any activity during the attachment. Activities could include learning activities such as field trip to a village or a day-to-day function such as food consumption.

iii. Risk Assessment
   - This would include potential hazards to physical safety, personal health and personal security, and the associated unwanted consequences and the control measures in place.
ANNEX A

Assessing Potential Attachment Locations and Host Institutions

Students may propose alternative attachment locations other than those recommended by the School. Any proposed locations by students or the School would have to fulfil the following requirements.

i. Learning outcomes as listed above.
ii. Learning objectives (to complete Appendix I)
iii. Risk Assessment and Emergency Evacuation Plan (to complete Appendix II)
iv. Global Health Awareness Attachment form (refer to Annex E)
v. Summary of the programme and cost estimate.

Application Process and Timelines

Students are to submit their proposal comprising Appendix I – II, at least three months in advance to Graduate Programmes team for assessment in consultation with A/Prof Yeo Tsin Wen, Lead for Global Health Awareness attachment.

Post-Attachment

A report of 1-2 pages to be submitted to LKCMedicine Graduate Studies Office within 2 weeks of completion of the attachment.

Financial Subsidy

The School has in place financial subsidy to fund students undertaking the Global Health Awareness attachment. Each student is entitled to a maximum subsidy amount of S$1,500. The actual subsidy amount will be determined based on the attachment location and cost estimate of the attachment.
## Global Health Awareness Attachment – Learning Outcomes and Objectives

### Part 1 - Learning Outcomes

To indicate any of the pre-defined learning outcomes (as applicable).

### Part 2 - Objectives

<table>
<thead>
<tr>
<th>Activity</th>
<th>Objectives</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Outreach – Nutrition</td>
<td>Example: 1. Continue reaching out to more villagers and educating them about nutrition through our various materials. 2. Raise awareness about the importance of a healthy diet and lifestyle.</td>
</tr>
</tbody>
</table>

...
# Global Health Awareness Attachment Project Proposal
## Risk Assessment & Emergency Evacuation Plan - SAMPLE

## Part I – Emergency Contacts

<table>
<thead>
<tr>
<th>Description</th>
<th>Contact Person</th>
<th>Contact Number</th>
<th>Address</th>
</tr>
</thead>
<tbody>
<tr>
<td>Nearest Medical Facility</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Nearest Hospital</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Contact</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Mentor</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International SOS</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Insurance</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Overseas Partner</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Singapore Embassy / High Commission</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Note: List all activities in itinerary, even if no hazards are anticipated (to fill in N/A).*
<table>
<thead>
<tr>
<th>Location</th>
<th>Date</th>
<th>Activity</th>
<th>I/C</th>
<th>Area of Concern</th>
</tr>
</thead>
<tbody>
<tr>
<td>Changi International Airport, Singapore</td>
<td></td>
<td>Departure from Singapore</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Chennai Airport, India</td>
<td></td>
<td>Arrival from Singapore</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>Chennai Airport, India</td>
<td></td>
<td>Transportation to CMC, Vellore</td>
<td></td>
<td>Physical safety</td>
</tr>
<tr>
<td>CMC, Vellore, India</td>
<td></td>
<td>Accommodation</td>
<td></td>
<td>Personal security</td>
</tr>
<tr>
<td>CMC, Vellore, India</td>
<td></td>
<td>Food consumption</td>
<td></td>
<td>Physical health</td>
</tr>
<tr>
<td>CMC, Vellore, India</td>
<td></td>
<td>Water consumption</td>
<td></td>
<td>Water consumption</td>
</tr>
<tr>
<td>CMC, Vellore, India</td>
<td></td>
<td>Clinical Observation</td>
<td></td>
<td>Physical safety</td>
</tr>
<tr>
<td>CMC, Vellore, India</td>
<td></td>
<td>R&amp;R</td>
<td></td>
<td>Personal security, physical health, physical safety</td>
</tr>
<tr>
<td>CMC, Vellore, India</td>
<td></td>
<td>Transportation to Chennai Airport</td>
<td></td>
<td>Physical safety</td>
</tr>
<tr>
<td>Chennai Airport, India</td>
<td></td>
<td>Departure from CMC, India</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

* Note: List all activities in Itinerary, even if no Hazards anticipated (fill in N/A)
<table>
<thead>
<tr>
<th>Category</th>
<th>Activity</th>
<th>Unwanted Consequences &amp; Affected Persons</th>
<th>L</th>
<th>S</th>
<th>Control Measures &amp; Person In-Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transportation</td>
<td>Journey from Chennai Airport to hotel at CMC, Vellore</td>
<td>- Transport accident between CMC and Chennai Airport</td>
<td>1</td>
<td>3</td>
<td>- Ensure transport driver is familiar with the roads, has valid licence, vehicle is road-worthy and licensed to operate, and driver has a clean driving record.</td>
</tr>
<tr>
<td>Criminal activity</td>
<td>Rest and recreation</td>
<td>- Theft and other criminal activity (Members who don’t take safety precautions to safeguard their belongings)</td>
<td>1</td>
<td>2</td>
<td>- During R&amp;R, members will only go to the recommended touristy areas</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Local NGO to be asked for advice on which areas to go</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Some members of NGO to follow members of team in case of any emergency</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Members will dress conservatively for cultural sensitivity</td>
</tr>
<tr>
<td>Climate and natural surroundings</td>
<td>Full duration of trip</td>
<td>- Unpredictable weather, animal bites, insect bites</td>
<td>2</td>
<td>1</td>
<td>- Will provide insect repellant if required to ward off mosquitoes</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Vaccination to be done before trip</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Medical aid to be readily available</td>
</tr>
</tbody>
</table>
## Hazard #2 – Personal Health

<table>
<thead>
<tr>
<th>Category</th>
<th>Activity</th>
<th>Unwanted Consequences &amp; Affected Persons</th>
<th>L</th>
<th>S</th>
<th>Control Measures &amp; Person In-Charge</th>
</tr>
</thead>
</table>
| Food consumption  | Food consumption  | - Standard of hygiene may differ in India, and may cause food poisoning to team members (everyone)        | 2 | 1 | - Off the counter diarrhea/constipation medications (e.g. charcoal pills) will be brought by safety officer  
|                   |                   |                                                                                                         |   |   | - Hygiene measures to be implemented by safety officer (e.g. Alcohol hand rub prior to consumption of food in village)  
|                   |                   |                                                                                                         |   |   | - Knowledge of nearest hospital/clinic, and transportation van to be on stand-by                      |
| Water consumption | Water consumption | - Standard of water purification in India may differ from Singapore, and might cause water borne illnesses to team members (every- one)  
|                   |                   | - Heat injury may occur if students do not receive adequate amounts                                        | 2 | 1 | - Bottled water to be used for consumption purposes                                            
|                   |                   |                                                                                                         |   |   | - Team members to be briefed about heat injury and will be on lookout for any team member that are showing any signs of it  
|                   |                   |                                                                                                         |   |   | - Students to be constantly reminded by team leaders to drink water, with adequate breaks between programmes to ensure that they do  
<p>|                   |                   |                                                                                                         |   |   | - Nearest hospital/clinic to be known and transportation on stand-by in case of emergencies               |</p>
<table>
<thead>
<tr>
<th>Category</th>
<th>Activity</th>
<th>Unwanted Consequences &amp; Affected Persons</th>
<th>L</th>
<th>S</th>
<th>Control Measures &amp; Person In-Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Medical health</td>
<td>Full duration of trip</td>
<td>- India has a higher incidence of diseases such as malaria, dengue etc., students may fall ill</td>
<td>1</td>
<td>2</td>
<td>- Nearest hospital/clinic to be known and transportation on stand-by in case of emergencies</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Safety officer to ensure that all vaccinations to be taken by students with an official proof of record to be shown</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Safety measure to be implemented during all trips (Using mosquito repellent, buying food from reputable sources, daily dose of vitamin C, daily prophylaxis against malaria etc.)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Team members to be briefed on recognising signs of illness and team members to be on immediate watch</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- First aid kit to always be on stand-by and be easily accessible</td>
</tr>
</tbody>
</table>
**Hazard #3 – Personal Security**

<table>
<thead>
<tr>
<th>Category</th>
<th>Activity</th>
<th>Unwanted Consequences &amp; Affected Persons</th>
<th>L</th>
<th>S</th>
<th>Control Measures &amp; Person In-Charge</th>
</tr>
</thead>
<tbody>
<tr>
<td>Crime/security</td>
<td>Accommodation</td>
<td>- Levels of criminal activity would differ in Indonesia, and students may experience theft</td>
<td>1</td>
<td>2</td>
<td>- Team members would be living in the dormitories/recommended hotels of NGO</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Emergency contact numbers to be known to all team members and placed in the book-let given to every team member</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Safety officer to implement certain safety precautions (e.g. Locking doors at night, stipulated amount of cash/be- longings to bring)</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Members will dress conservatively for cultural sensitivity</td>
</tr>
<tr>
<td>Cultural issues</td>
<td>Full duration of trip</td>
<td>- Cultural differences may cause misunderstandings, leading to altercations and an unsuccessful attachment</td>
<td>2</td>
<td>2</td>
<td>- Check on language, history and communication before departure.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Team leaders to ensure that members are well-acquainted with learning materials to preempt any uncomfortable scenarios</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Safety officer to ensure an evacuation route in the event of any violent conflicts</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Team leaders to ensure interpreter is onsite to defuse any potential misunderstandings</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>- Members will dress conservatively for cultural sensitivity</td>
</tr>
</tbody>
</table>

Legend: L: Likelihood – Indicate ‘1’ if Seldom, ‘2’ if Occasional, ‘3’ if Frequent  
S: Severity – Indicate ‘1’ if Negligible, ‘2’ if Marginal, ‘3’ if Frequent
To ensure security and impartiality in the course assessments and examinations, faculty and staff (including temporary staff) are required to abide with the confidentiality clause and declare if they have any conflict of interest.

1. Confidentiality

The content of the course assessments and examinations, including without limitation, questions, answers, or any communication, including oral communication, regarding or related to the course assessments and examinations is Lee Kong Chian School of Medicine’s confidential information.

Any disclosure of confidential information is a violation of this agreement and could compromise the integrity and security of the course assessments and examinations. All faculty and staff are expressly prohibited from disclosing, publishing, reproducing, copying, selling, posting, downloading or transmitting any confidential information, in whole or in part, in any form or by any means, oral or written, electronic or mechanical, for any purpose.

2. Conflict of Interest

Please indicate if you have any family members or other relatives who are studying in NTU. A Nil response is required. The Dean of LKCMedicine will determine if the nature of the relationship (if any) calls for special arrangements to be made.

<table>
<thead>
<tr>
<th>No.</th>
<th>Student’s Particulars</th>
<th>Relationship to Staff</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Name</td>
<td>Programme/ Year</td>
</tr>
</tbody>
</table>

Declaration

I agree to maintain the confidentiality of the course assessments and examinations and declare that all the information provided is true to the best of my knowledge. Disclosures must be updated promptly and throughout the year if there are changes in circumstances that either (a) create a new conflict of interest or (b) change or eliminate a conflict of interest previously disclosed. Updates can be made via email to gradprog_LKCMedicine@ntu.edu.sg.

Name of Faculty/Staff | Signature of Faculty/Staff | Date
Teaching Assistant Assignment Timesheet

Notes:
1. This timesheet shall be used to record the hours clocked for each completed assignment.
2. Each completed assignment must be endorsed by the assignment coordinator/supervisor.
3. The timesheet must be submitted to the Graduate Programmes team at the end of each semester and thereafter use a fresh form to continue recording the hours, if applicable.
4. The hours clocked would be reported to the Ministry of Education annually at the end of each Academic Year.
5. Please fulfil the required hours at least 6 months before graduation.

<table>
<thead>
<tr>
<th>Academic Year:</th>
<th>Semester:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td>Matriculation No.:</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N</th>
<th>Date</th>
<th>Type of assignments (refer table A)</th>
<th>Start time</th>
<th>End time</th>
<th>No. of hours clocked</th>
<th>Name &amp; Signature of coordinator/supervisor</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
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</tbody>
</table>

Total Number of Hours: ____________

Student’s signature & date: ____________________________

Endorsed by main or co-supervisor: ____________________________

Approved by PhD Programme Director: ____________________________
<table>
<thead>
<tr>
<th>Type</th>
<th>Maximum Hours Allowed</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Teaching hours/lab supervision</strong></td>
<td></td>
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<tr>
<td>• Undergraduate tutorials</td>
<td></td>
<td></td>
</tr>
<tr>
<td>• Undergraduate practical sessions</td>
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</tr>
<tr>
<td>International students</td>
<td>416 hrs (100%)</td>
<td>Official office hours and preparation of the class can be taken into account.</td>
</tr>
<tr>
<td>Singapore Citizen / PR</td>
<td>208 hrs (100%)</td>
<td>Preparation time should not account for more than half of the time required for the assignment.</td>
</tr>
<tr>
<td><strong>Research Assistant duty, inclusive of research supervision</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td>International students</td>
<td>250 hrs (60%)</td>
<td>The quality of the research supervision or research assistant (RA) duty has to be endorsed by the student's supervisor.</td>
</tr>
<tr>
<td>Singapore Citizen / PR</td>
<td>125 hrs (60%)</td>
<td>No preparation time should be clocked in this assignment.</td>
</tr>
<tr>
<td><strong>Other developmental assignments</strong></td>
<td></td>
<td></td>
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<tr>
<td>• Attachment</td>
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<td>• Invigilation duties</td>
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<td>• Marking of assignments</td>
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<tr>
<td>• Outreach events e.g. NTU Open House</td>
<td></td>
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</tr>
<tr>
<td>International students</td>
<td>83 hrs (20%)</td>
<td>The RA duty should go beyond the scope of the research project undertaken by the student to fulfil the requirement of the PhD programme.</td>
</tr>
<tr>
<td>Singapore Citizen / PR</td>
<td>42 hrs (20%)</td>
<td></td>
</tr>
</tbody>
</table>
# Research Seminars Record Form

**Notes:**
1. This form shall be used to record the details of seminars attended.
2. You must attend at least 10 seminars per year.
3. You will need to obtain the organiser’s endorsement.
4. The form must be signed by your supervisor and submitted to the Graduate Programmes team at the end of each year and thereafter use a fresh form to record the details of seminars attended, if applicable.

<table>
<thead>
<tr>
<th>Academic Year:</th>
<th>Matriculation No.:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Name:</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>S/N</th>
<th>Date</th>
<th>Name of Speaker</th>
<th>Title of Seminar</th>
<th>Name &amp; Signature of Organiser</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
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</table>

Student’s signature & date: ____________________________

Endorsed by main or co-supervisor: ___________________
PROPOSED RESEARCH TOPIC AND SUPERVISOR FOR HIGHER DEGREE CANDIDATES BY RESEARCH

This form is required to seek the School’s approval on student’s Proposed Research Topic and Supervisor. The nominations must be made two (2) months from date of enrolment for clinicians and, eight (8) months from date of enrolment for non-clinician students.

Please refer to Appendix A for criteria for supervisor selection.

Please complete Parts I and II before submitting to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg.

PART I: TO BE COMPLETED BY STUDENT

Name of Student: ____________________________

Matriculation No.: ____________________________ Commencement Date: __________

PROPOSED RESEARCH TITLE (Please also attach a short write-up of your research project. The Research Topic will be published in our annual Report on Graduate Studies):

Prospective Supervisor

<table>
<thead>
<tr>
<th>Role</th>
<th>Title (e.g. Assoc Prof) &amp; Name</th>
<th>School / Institute</th>
<th>Signature</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supervisor</td>
<td></td>
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<tr>
<td>Co-Supervisor 1</td>
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<tr>
<td>Co-Supervisor 2</td>
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</tbody>
</table>

(For external co-supervisor, i.e. A*STAR, DUKE–NUS, Imperial, etc, please attach a copy of his/her CV to this form)
**Part II: To be completed by Supervisors**

**Supervisor:** I am currently supervising the following graduate students.  
(Please indicate total no. of students, their names & degrees of study and funding details)

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>FT/PT</th>
<th>Expected Completion Date</th>
<th>Type of Funding (E.g. RSS/ARC projects)</th>
</tr>
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<tbody>
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</table>

Name of Proposed Supervisor ___________________________ Signature ___________________________ Date __________

**Co – Supervisor:** I am currently supervising the following graduate students.  
(Please indicate total no. of students, their names & degrees of study and funding details)

<table>
<thead>
<tr>
<th>Name</th>
<th>Degree</th>
<th>FT/PT</th>
<th>Expected Completion Date</th>
<th>Type of Funding (E.g. RSS/ARC projects)</th>
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</table>

Name of Proposed Co-Supervisor ___________________________ Signature ___________________________ Date __________

**Part III: Approval from PhD Programme Director:**

The nomination of Supervisor and Co–Supervisor(s) is **approved / not approved**.

**Comments:**

___________________________________________________________________________

___________________________________________________________________________

Name & signature ___________________________ Date __________
Appendix A

Criteria for Supervisor Selection

Each student will normally be supervised by a primary supervisor and a co-supervisor from LKCMedicine. One of the supervisors must be medically qualified.

**Main supervisor:**
- i. must hold a PhD and/or Doctor of Medicine degree and
- ii. must be a full-time faculty in LKCMedicine (Full / Associate / Assistant Professor)

**Co-supervisor:**
- i. must hold a PhD and/or a medical degree and
- ii. must be a Full / Associate / Assistant / Visiting / Adjunct Professor in LKCMedicine

If the co-supervisor is nominated from beyond LKCMedicine, a second co-supervisor from LKCMedicine must be nominated.

Students who undertake an attachment in Imperial College London (ICL) will, in addition, be supervised by a member of the Imperial College London faculty. In this case, the ICL faculty must be identified in advance and provide a written agreement to act in this capacity.

Any request for exception to the stipulated criteria will be evaluated on a case-by-case basis. Please provide justification on a separate sheet.
Change / Add Supervisor(s) Request Form

This form is required to seek the School’s approval on the change/add supervisor(s). The nominations must be made **three (3) months** before the scheduled Qualifying Examination date.

Please complete Parts I, II and III before submitting to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg.

Part I: To be completed by student

<table>
<thead>
<tr>
<th>Name of student:</th>
<th>Matriculation no.:</th>
<th>Commencement date of candidature:</th>
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<table>
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<tr>
<th>Current supervisor(s):</th>
<th>Current co-supervisor:</th>
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<thead>
<tr>
<th>Proposed change of supervisor(s)</th>
<th>Name of supervisor</th>
<th>Supervisor’s signature and date</th>
<th>School</th>
<th>Effective date for change</th>
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<tbody>
<tr>
<td>Proposed new/add* supervisor / co-supervisor*</td>
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<td>* delete whichever is not applicable</td>
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<tr>
<td>Remove current primary / co - supervisor</td>
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*delete whichever is not applicable*
Detailed reasons for the request to change or add supervisor(s) / co-supervisor
*(attach a separate sheet if necessary)*

<table>
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<th>Part II – To be completed by current supervisor</th>
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<table>
<thead>
<tr>
<th>Signature of Current Supervisor</th>
<th>Date</th>
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<tr>
<th>Part III – To be completed by proposed new primary / co-supervisor</th>
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<td><em>(It must also be stated that supervisor and student agree to work together)</em></td>
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<th>Signature of Current Supervisor</th>
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I am currently supervising the following graduate students.
(Please indicate total no. of students, their names & degrees of study and funding details)

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Name and Signature of Proposed New Supervisor ____________________________ Date __________

**Part IV: Approval from PhD Programme Director:**

Change of Supervisor / Co–Supervisor request is **approved / not approved** *

**Comments:**

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

________________________________________________________________________

Name & signature ____________________________ Date __________
Nomination of Thesis Advisory Committee

The Thesis Advisory Committee (TAC) monitors the student’s progress throughout his/her candidature, provides advice to the student and completes the progress reports.

Please read the guidelines in Annex A before filling in the form.

Please complete Parts I and return to the Graduate Programmes team at gradprog_LKCMedicine@ntu.edu.sg

Part I: To be completed by Student

Name of Student: ____________________________
Matriculation No.: __________________________ Commencement Date: ________________
Project title: ________________________________

Members of TAC

Main Supervisor
Name: ________________________________

Co-Supervisor(s)
Name: ________________________________

Chairperson from LKCMedicine (Full-Time Assoc Prof and above)
Name: ________________________________

Committee Member from LKCMedicine (full-time faculty)
Name: ________________________________

Committee Member from NTU or beyond
Name: ________________________________
Institution/Organisation: ________________________________
Email: ________________________________
Contact number: ________________________________

☐ Consent from the Chairperson and Committee Members has been obtained for this nomination.

______________________________  ________________________________
Signature of Main Supervisor             Date

Part II: Approval from PhD Programme Director

The Thesis Advisory Committee nomination is approved / not approved.

Comments:
__________________________________________________________________________________________________________________________________________________________

______________________________  ________________________________
Name and Signature             Date
Annex A

When to form TAC
In the 6th month of the student’s candidature (clinician) or 8th month of the student’s candidature (non-clinician), student and Main Supervisor must complete and submit the nomination form within two weeks for School’s approval.

When to conduct TAC meetings
Once a year.

Student is responsible for planning each TAC meeting i.e. scheduling a date/time and venue with supervisors and TAC members.

Composition and Responsibilities of TAC Members
The TAC comprises the

i. Chairman from LKCMedicine who is an full-time Associate Professor and above
ii. One full-time faculty from LKCMedicine
iii. One faculty from NTU, NUS, Duke-NUS, A*Star, Imperial College London, other research institutes or healthcare institutions
iv. Main supervisor
v. Co-supervisor

- Student must discuss the nomination with the supervisors
- TAC members should have given their consent for the nomination
- TAC members should be willing to remain on TAC for the duration of the student’s candidature
- All TAC members should be present at each TAC meeting
- The TAC should assist to monitor the progress of a student's work and advise the student about the development of their research project
- Adjunct and Visiting Professors of LKCMedicine and NTU are not allowed to act as Chairman or members of the TAC

Prior to TAC meeting
Student should consult the supervisor on the length of the report. The report should not be more than 10 pages and must be submitted to the TAC at least two weeks before the TAC meeting.

The report for the first TAC meeting should present an outline of the project, proposed methodology and preliminary results if available. The project should be one of the two laboratory rotations (if applicable) that the student is likely to choose as the final thesis.

Reports for subsequent TAC meetings should include updates to the research plan and the student's progress in his/her thesis.
On the day of TAC meeting
The candidate should make a presentation of no more than 30 minutes followed by a discussion with the TAC.

Post-TAC meeting
TAC must prepare and submit the Thesis Advisory Report within one week from the TAC meeting to the Graduate Studies team. The report, no more than two pages, should include the following:

- name of student
- title of research project
- details (date/time/venue) of the meeting
- assessment on the student’s progress
- recommendations for further work where appropriate
- recommendations for renewal of scholarship and continuation of candidature
- signatories of all TAC members

Supervisor(s) must prepare and submit a Progress Report within one week from the TAC meeting to the Graduate Studies team. The report should not be more than two pages. It should include the following:

- name of student
- title of research project
- details (date/time/venue) of the meeting
- assessment on the student’s progress
- recommendations for further work where appropriate
- signatories of all supervisors

Upon receiving the Thesis Advisory and Progress reports, the Graduate Studies team will attach the continuation of Candidature and Scholarship Renewal form to the reports for PhD Programme Director’s approval.
Thesis Advisory Report

Name of Candidate: ____________________________

Matriculation No.: ____________________________

Date and Time of TAC Meeting: ____________________________

Venue of TAC Meeting: ____________________________

Project Title: ____________________________

Section I

Date of Report: ____________________________

General Comments: ____________________________
Section II

Recommendations:

<table>
<thead>
<tr>
<th>Role</th>
<th>Name and Signature</th>
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<tbody>
<tr>
<td>Chairperson</td>
<td></td>
</tr>
<tr>
<td>Committee Member:</td>
<td></td>
</tr>
<tr>
<td>Primary Supervisor:</td>
<td></td>
</tr>
<tr>
<td>Committee Member:</td>
<td></td>
</tr>
<tr>
<td>Co-Supervisor:</td>
<td></td>
</tr>
</tbody>
</table>
## Progress Report

<table>
<thead>
<tr>
<th>Name of Candidate:</th>
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<tbody>
<tr>
<td>Matriculation No.:</td>
<td></td>
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<tr>
<td>Project Title:</td>
<td></td>
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</tbody>
</table>

Date of Report: ______________

**General Comments:**

<table>
<thead>
<tr>
<th>Primary Supervisor:</th>
<th></th>
<th>Co-Supervisor:</th>
<th></th>
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</thead>
<tbody>
<tr>
<td>Name and Signature</td>
<td></td>
<td>Name and Signature</td>
<td></td>
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</tbody>
</table>
Nomination of Examiners for PhD Qualifying Examination

This form is required to seek the School’s approval on the appointment of examiners for the PhD Qualifying Examination (QE). The nominations must be made three (3) months before the QE. Please read guidelines in Annex A before completing the form.

Please complete Parts I and II before returning it to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg.

Part I: To be completed by Student

Name of Student: ______________________
Matriculation No.: ____________________ Commencement Date: ________________
Thesis Title: _______________________

Name of Primary Supervisor: ______________________
Name of Co-Supervisor(s): ______________________

Research Pathway:
I am choosing the following pathway in the programme:
(Please tick accordingly)

☐ Pathway 1 - Mainstream  ☐ Pathway 2 - Industry aligned  ☐ Pathway 3 - Dual centre*

*Please indicate Imperial College London (ICL) faculty and provide a written agreement.

Name of ICL Faculty: ______________________
Faculty: ______________________

Declaration:
I, the above named, wish to inform the School that I have:
   a) discussed the progress of my candidature with my supervisor(s), and he/she/they has/have agreed that I am ready for the QE and will be able to submit my research proposal in a form ready and acceptable for examination.
   b) completed the programme requirements. Please refer to attached checklist and supporting documents/reports.
I would like my Qualifying Examination to be held in the month of ________________

Please note that your research proposal is due three weeks prior to your QE. You must take this into consideration when suggesting the QE date. Please also note that the School will attempt to organise the QE accordingly subject to the availability of the QE Panel.

__________________________  _________________
Signature of Student   Date

**Part II: Members of QE Panel**
*(Please obtain consent from the QE Panel before nominating)*

<table>
<thead>
<tr>
<th>Role</th>
<th>Name:</th>
<th>Ph.D. Qualification</th>
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<tbody>
<tr>
<td><strong>Chairperson</strong> from LKCMedicine (Full-time Assoc Prof and above)</td>
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<td>☐ Ph.D.</td>
</tr>
<tr>
<td><strong>Examiner</strong> from LKCMedicine (Full-time Faculty)</td>
<td></td>
<td>☐ Ph.D.</td>
</tr>
<tr>
<td><strong>Examiner</strong> from LKCMedicine or NTU</td>
<td></td>
<td>☐ Ph.D.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name:</th>
<th>Institution / Organisation:</th>
<th>Email:</th>
<th>Contact number:</th>
<th>Ph.D. Qualification</th>
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**Part III: Approval from PhD Programme Director**

I approve / do not approve the nominations.

Comments:  

________________________________________________________________________________________________________________________________________________________________________________________  

________________________________________________________________________________________________________________________________________________________________________________________  

________________________________________________________________________________________________________________________________________________________________________________________  

__________________________  _________________
Name and Signature   Date
# Annex M

## Curriculum Requirements Checklist

Name of Student: ___________________________ Matriculation No.: ______________

Please complete and submit the checklist and supporting documents/reports along with the Nomination of Examiners for PhD Qualifying Examination form to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg.

<table>
<thead>
<tr>
<th>Documentary proof of the following:</th>
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<tbody>
<tr>
<td>• 2 core modules</td>
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<tr>
<td>• 2 elective modules</td>
</tr>
<tr>
<td>• Epigeum Research Integrity Online Programme for Biomedical Sciences</td>
</tr>
<tr>
<td>• Online Courses on Research Ethics</td>
</tr>
<tr>
<td>• Attendance at Research Seminars</td>
</tr>
<tr>
<td>• HWG703 Graduate English, if applicable</td>
</tr>
<tr>
<td>• HWG702 Teaching Assistant Programme, if applicable</td>
</tr>
</tbody>
</table>

Two written reports of the laboratory rotations unless you were exempted by the School to undertake one laboratory rotation.

*Results (if any) of each mini-project should be written in the form of a scientific paper (1 to 2-page).*

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<tr>
<td>• Report for first laboratory rotation</td>
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<tr>
<td>• Report for second laboratory rotation</td>
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</tbody>
</table>

Two written reports (1000 to 1500 words per report) of the Global Health and Clinical Awareness attachments.

<p>| |</p>
<table>
<thead>
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<tbody>
<tr>
<td>• Report for Clinical Health Awareness attachment</td>
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<tr>
<td>• Report for Global Health Awareness attachment</td>
</tr>
</tbody>
</table>

**For School’s use:**

The student **has / has not completed and passed** the first Thesis Advisory Committee meeting.

When to conduct QE
QE shall be held between 12 and 18 months from enrolment.

Pre-requisites
Students must have successfully completed the curriculum requirements. For coursework, students must have attained a minimum CGPA 3.50.

Students must submit the enclosed Curriculum Requirements Checklist and supporting documents/reports along with the Nomination of Examiners for PhD Qualifying Examination form.

Programme requirements:
• 2 core modules
• 2 elective modules
• Epigeeum Research Integrity Online Programme for Biomedical Sciences
• Online Courses on Research Ethics
• Attendance at Research Seminars
• HWG703 Graduate English, if applicable
• HWG702 Teaching Assistant Programme, if applicable
• Report for first laboratory rotation
• Report for second laboratory rotation
• Report for Clinical Health Awareness attachment
• Report for Global Health Awareness attachment

Composition and Responsibilities of QE Panel
Please obtain consent from the QE Panel before submitting the nomination form. The QE panel comprises the Chair and at least 2 examiners. Members of the panel should hold doctoral degrees or equivalent:

i. The Chair is the representative of the Dean who is a full-time Associate Professor or above.

ii. The first examiner could be nominated from LKCMedicine.

iii. The second examiner could be nominated from LKCMedicine or different school.

iv. QE panel members must not have joint publications with the student.

Only one (1) TAC member from LKCMedicine or NTU could be nominated as examiner.

Adjunct and Visiting Professors of LKCMedicine and NTU are not eligible to serve as Chair or examiners for QE.

The supervisor and/or co-supervisor will be invited to attend the QE. They cannot, however, serve as members of the QE panel.
Request of exception to the stipulated criteria will be evaluated on a case by case basis at the School's discretion. Please provide justification on a separate sheet for exception request.

**Prior to QE**

Students shall submit (3) three ring-bound copies of the research proposal to the School three (3) weeks before the QE. The proposal will include research undertaken to date. Please see following guidelines on proposal format.

The proposal should be no more than 100 pages in length (font size 12 and double-spaced A4 page with 1 inch margins) and include the following:

a. Background to the study and research objectives
   (If the topic of study has deviated from the original proposed topic, an explanation should be provided.)

b. Literature review

c. Methodology

d. Preliminary results, if any

e. Discussion of preliminary results, if any

f. A plan of action that should include work done to date and methodology suitable for the next stage of work and that is achievable within the remaining timeframe of the candidature. A detailed schedule should be included as far as possible.

g. A description of possible challenges and how the candidate intends to meet those challenges.

h. Abstract (this is a separate sheet by itself).

**Candidate’s Responsibilities**

The candidate should:

1. keep track of his/her own candidature and work together with his/her supervisor(s) to begin preparing for the confirmation of candidature six months before the deadline stipulated by the university.

2. ensure that his/her research proposal is submitted to the School three (3) weeks before the QE.

3. discuss and work together with his/her supervisor(s) to produce a research proposal in a form ready and acceptable for examination.

4. declare that he/she has screened his/her research proposal for plagiarism against previously published works.

5. indicate clearly if his/her supervisor's approval has been obtained before submitting his/her research proposal.
6. treat the QE with utmost importance by preparing well for the presentation and anticipate the questions that may be asked.

7. dress appropriately for the occasion to reflect the significance and importance of the QE.

8. present his/her points clearly and professionally.

9. be prepared to consider the recommendations and advice of the panel.
On the day of QE
- The candidate is required to make a presentation followed by a question and answer session on the work done.
- The presentation will be in the format of an open seminar. The presentation shall not exceed 30 minutes.
- The Chair has the discretion whether to allow questions from the audience.
- The open seminar will be followed by a closed-door session at which the QE Panel will pose its questions to the candidate.
- The candidate may be asked to leave the room when the QE Panel needs to make its deliberations.
- The candidate should take note of his/her responsibilities as indicated above.

Post QE
The QE panel must submit a report with recommendations for renewal of scholarship and/or confirmation of candidature or termination of candidature to the School within one (1) week from the date of the QE.

Upon receiving the report, the Graduate Programmes team will complete and submit the Assessment on Research Student’s Progress Renewal of Scholarship form for PhD Programme Director’s approval.

All PhD candidates are allowed to resubmit their research proposal up to a maximum of two (2) times, subject to the time allowed for confirmation of candidature as stated in the letter of offer. For a PhD student, if the second attempt is still considered to be below the standard required for candidature, he/she will be recommended to withdraw from the programme.
**Application For Extension of Candidature of Higher Degree Candidates (By Research)**

This form is required to seek the School’s recommendation for extension of PhD candidature. Please complete Parts I and II and submit the form to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg at least **three (3) months** before the date of extension requested.

### Part I: To be completed by Student

<table>
<thead>
<tr>
<th>Name of Student:</th>
<th>Type of Candidature: Full-Time / Part-Time*</th>
</tr>
</thead>
<tbody>
<tr>
<td>Matriculation No.:</td>
<td>* Please delete as appropriate</td>
</tr>
<tr>
<td>Commencement Date of Candidature:</td>
<td>Expiry Date of Candidature:</td>
</tr>
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</table>

**Period of Extension Requested:** From **(dd/mm/yyyy)** to **(dd/mm/yyyy)**

**Reason(s) for applying for extension:**

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Signature of Student ___________________________ Date ____________
### Part II: Support from Supervisors

**Student’s application is** supported / not supported*

**Comments:**

Name and Signature of Primary Supervisor and Date  
Name and Signature of Co-Supervisor and Date

### Part III: Recommendation from PhD Programme Director

Period of extension requested by the candidate is **recommended** / not recommended.

**Comments:**

Name and Signature  
Date
**Initiation of Action to Nominate Examiners for Thesis Examination and Oral Examination**

This form is required to seek the School’s approval on the appointment of examiners for Thesis Examination and Oral Examination. The nominations must be made **three (3) months** before submission of thesis in a form ready for examination. Please read the guidelines in Annex A before completing the form. Please complete Parts I and II before returning it to the Graduate Studies team at gradprog_LKCMedicine@ntu.edu.sg

**Part I: To be completed by Student**

<table>
<thead>
<tr>
<th>Name of Student:</th>
<th>Matriculation No.:</th>
<th>Commencement Date:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Thesis title:</td>
<td></td>
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</table>

**Declaration:**
I, the above named, wish to inform the School that I have discussed the progress of my candidature with my supervisor(s), and he/she/they has/have agreed that I am able to submit my thesis in a form ready and acceptable for examination **three (3) months** from the date indicated below.

<table>
<thead>
<tr>
<th>Signature of Student</th>
<th>Date</th>
</tr>
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</table>

**Part II: Nomination of Examiners for Thesis Examination**

*(to be completed by Primary Supervisor)*

### i. Internal Examiner 1

Name: ___________________________ Department/School: ___________________________

### i. Internal Examiner 2

Name: ___________________________ Department/School: ___________________________

### ii. External Examiner (1)

Name: ___________________________

Designation

Department, University and Country: ___________________________

Email: ___________________________ Contact no.: ___________________________

The examiner has ☐ Ph.D. and/or ☐ medical qualification.
### iii. External Examiner (2)

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<th>Name:</th>
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<td>Designation</td>
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<td>Department, University and Country:</td>
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<tr>
<td>Email:</td>
<td>Contact no.:</td>
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</tbody>
</table>

The examiner has ☐ Ph.D. and/or ☐ medical qualification.

### iv. External Examiner (3)

(Act as reserve)

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<td>Department, University and Country:</td>
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<tr>
<td>Email:</td>
<td>Contact no.:</td>
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The examiner has ☐ Ph.D. and/or ☐ medical qualification.

### Part II: Nomination of Examiners for Oral Examination (to be completed by Primary Supervisor)

#### i. Internal Examiner

<table>
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<th>Name:</th>
<th>Department/School:</th>
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I hereby confirm that the abovementioned student would be able to submit the thesis in a form ready for and acceptable for examination by the deadline indicated above.

Name and Signature of Primary Supervisor ________________________________ Date ____________

#### ii. Internal Examiner 2

<table>
<thead>
<tr>
<th>Name:</th>
<th>Department/School:</th>
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</table>

### Part III: Approval from PhD Programme Director:

The nomination of examiners for student’s Thesis Examination is **approved / not approved**.

**Comments**

Name and Signature ________________________________ Date ____________
Annex A

Appointment of Thesis Examiners

Candidates must discuss with supervisor(s) on their progress first before initiating the process of nominating examiners.

The nomination should be made at least three (3) months before the expected date of thesis submission for examination.

Candidate and supervisor must submit the following:

- Form for Initiation of Action to Nominate Examiners for Thesis Examination (Annex O)
- Examiner’s acceptance of appointment email acknowledgement
- Examiner’s curriculum vitae and examiner’s publication list

Composition of Thesis Examiners

A PhD thesis requires at least three independent examiners: one internal and two external examiners.

- Examiners for PhD students must be PhD holders themselves or hold its equivalent doctoral research degrees.
- The examiners can be appointed from members of the Thesis Advisory Committee (TAC) provided there is no conflict of interest and that these TAC members do not have joint publications with the PhD candidate.
- The internal examiner must be NTU’s faculty – Professor, Associate Professor or Assistant Professor. NTU’s lecturers and senior lecturers cannot be internal examiners.
- The external examiner should be an academic staff with good international standing in his / her field of research. He / She must be a senior faculty staff of the rank of Associate Professor or full Professor from a top university or a senior researcher in an international research institution.
- In the case of a senior researcher from a reputable international research organisation who is invited to be an external examiner, he / she should have some prior experience in supervising and examining PhD students.
- Both external examiners cannot be from research organisations only. At least one of the external examiners should come from an internationally recognised reputable university.
- Visiting Professors may be appointed as external examiners provided they have already left NTU when the thesis is ready for examination. Ex-supervisor(s) of the student cannot be appointed as the external examiner.
- Both the external examiners should not be from
  - local institutions only
  - same overseas university
  - research institutions only (without any academic affiliation or prior PhD supervision experience)
As a general guide, an external examiner should have a strong publishing record with a good number of papers in top SCI (Scientific Citation Index) journals in the given research area. The School is expected to carry such verification especially for external examiners who did not obtain his/her PhD from top established universities.

The appointment of examiners is confidential. The supervisor is to provide a list of suitably-qualified nominees to the Graduate Programme team and the School will make the final selection from the pool of nominees. The identities of the examiners will not be revealed to students and supervisors.

**Prior to Submission of Thesis**

The thesis should take the form of a monograph and must be a record of the candidate’s own research, written in his/her own words and not an assemblage of papers documenting the work of multiple contributors. It should describe problems and failures as well as successes. Data obtained in collaboration with other researchers may be included, but its provenance should be explicitly indicated in the text. It is an expectation, though not a strict requirement that the research undertaken will lead to the publication of one or more peer reviewed publications. Papers or patents arising from the research may be submitted together with but not in lieu of the thesis. The thesis should not exceed 40,000 words.

The candidate is required to prepare the following documents before submission of thesis:

- Receipt of examination fee. (You can find out the amount on your admissions letter).
- Pdf copy of your final thesis. It should include the following Declaration Statements:
  I. Statement of Originality,
  II. Supervisor Declaration Statement and,
  III. Authorship Attribution Statement
- Academic records which you can download from GSLink.
- Abstract (150 words or less).
- Turnitin Originality Report (only the 1st page with the percentage shown is required). The current guide for plagiarism checking is ≤ 15%. If the percentage exceeds the maximum, the thesis must not be submitted and candidate is required to follow up with supervisor. Please submit a pdf copy of your final thesis to gradprog_LKCmedicine@ntu.edu.sg for plagiarism checking. To access Turnitin Plagiarism Detection Tools, please login to NTULearn (https://ntulearn.ntu.edu.sg) using your NTU network ID and Password.

You are required to hand your Turnitin Originality Report in person to the Graduate Studies team before your online thesis submission.

**Submission of Thesis**

The documents that you would be required to upload are:

- Pdf copy of your final thesis (maximum file size limit of 60MB) with the following Declaration Statements:
  I. Statement of Originality,
  II. Supervisor Declaration Statement and,
  III. Authorship Attribution Statement
- Academic records
- Abstract (150 words or less)
- Receipt of examination fee

1 including footnotes, but excluding appendices, bibliography, maps, charts, statistical tables, graphs, illustrations, etc.
Please upload the above mentioned documents to the Thesis Submission Portal at GSLink → Academic → Thesis (for Research Student only) → Thesis Submission

**Important Notes:**

- The date on which the supervisor endorses the thesis to be in an acceptable form for examination online will be taken as the date of submission.
- Ensure the thesis that you uploaded onto the portal is the final version of the thesis that is to be read by the examiners. No changes are allowed once your thesis is uploaded onto the portal.
- Candidates who submit the thesis in a form ready and acceptable for examination before or within the first 2 teaching weeks of a semester will not be liable for tuition fee for that semester.
- Candidates who are in the programme of study for more than two weeks of a semester are liable for tuition fees for that semester as long as they have not submitted their thesis in a form ready for examination.
- Candidates who submit their thesis before 30 September (for Semester 1) or 31 March (for Semester 2) may pay half a semester’s fee. Students who submit their thesis beyond 30 September (for Semester 1) or 31 March (for Semester 2) shall be liable for full fees for the semester.
- Once you have submitted all required documents, a pop-up window will appear. You may then enter the proposed new thesis title which is subject to approval. Please ensure you “allow pop-up” on your browser so that you can key in the amended thesis title.

**Post-Thesis Submission**
The thesis examiners are given up to two months to complete their examination of the thesis.

**Thesis Amendments / Re-examinations**
For minor amendments, the School will proceed to arrange the Oral examination and the candidate shall be given one month from date of the oral examination to make amendments to the thesis.

For major amendments, the candidate shall be given three months from the date of the examination outcome notification from OAS to make amendments to the thesis.

For thesis examination outcome of either major amendments or further study, the amended thesis shall be reviewed and confirmed acceptable for award of degree before the student can proceed to oral examination.

For internal examiner who recommended major amendments, the School shall send the amended thesis, together with all examiner’s original reports and candidate’s responses to all examiners’ comments, to him / her for review.

For external examiner who recommended major amendments or further study, the amended thesis shall be reviewed and confirmed by either

a) the external examiner himself / herself if he / she agrees to a re-examination, or

b) the internal examiner who shall on behalf of the external examiner ensure that all requirements and concerns have been appropriately addressed.

The School shall liaise with the internal examiner and OAS shall liaise with the external examiner.

Both internal and external examiners are given two weeks to review the amended thesis.

The School shall proceed to arrange the oral examination within one month from the date of
a) the internal examiner’s confirmation to the School that the thesis is satisfactorily amended and it is acceptable for award of degree subject to the student passing the oral examination, or

b) the re-examination outcome notification from OAS.

Should the amended thesis be deemed to be unsatisfactory and further amendments are required, the candidate shall be given one month from the date of the re-examination outcome notification from OAS to make amendments to the thesis for re-submission.

**Oral Examination**

The oral examination is the final assessment of a student’s research by the University and it is mandatory for all PhD students. The candidate must present himself / herself for an oral examination on the subject matter of the thesis and related subjects.

The core composition of members for the candidate’s PhD Oral Examination panel shall include the School Chair or his nominee, and at least two other examiners (one who is the University examiner and another examiner who represents the external examiners).

The Chairman of the panel, whose role is that of the representative of the School Chair, should be a senior faculty staff who is an Associate Professor or above from the home School of the PhD candidate.

The PhD Oral Examination panel consists of the following members:

a) The Chair or his nominee (from same School as PhD candidate)
b) Internal/University Examiner 1 (from the same or a different School from the PhD candidate, can be TAC member).
c) Internal Examiner 2 (from the same or a different School from the PhD candidate, can be TAC member, who will ask questions posed by the external examiners).
d) Additional Examiner(s) as appropriate and approved.

**Important Notes:**

TAC members can be appointed as PhD Oral Examination panel members provided there is no conflict of interest and they have not published any paper with the PhD candidate.

The supervisor and co-supervisor, including ex-supervisor(s), cannot serve as members of the Oral Examination panel. They can only act as observers with no voting rights.

The PhD Oral Examination is open to all to attend, except in cases where some Intellectual Property issues may be involved. In these latter cases, the supervisor and PhD candidate can seek the approval of the Chair of the School for a ‘closed door’ oral examination to be conducted by the panel.

External examiners are not required to be present but may attend the Oral Examination as voting members.

In exceptional circumstances, the Oral Examination can be held by video-conferencing or by other remote means as granted by the School Chair with the approval of Dean, Graduate College.

**Post Oral Examination**

The result of an oral examination will be one of the following:
a) Pass the oral examination without any further amendments to the thesis.
b) Pass the oral examination with the requirement to attend to all amendments to the thesis to the satisfaction of the appointed panel member.
c) Fail the oral examination and must repeat it at a later date with no further amendments to the thesis.
d) Fail the oral examination and must repeat it at a later date after amendments to the thesis.

The repeat oral examination should be conducted at a date agreed upon by all the panel members. It should not be later than eight weeks after the date of the first oral examination.

The result of a repeat oral examination will be one of the following:

a) Pass the oral examination without any further amendments to the thesis.
b) Pass the oral examination with some amendments to the thesis.
c) Fail the repeat oral examination.

The final outcome of the Oral Examination panel is generally expected to be made by consensus. In cases where such consensus is not possible, the majority view will prevail. In such cases, a written record of the reasons for dissenting view and the name of the panel member must be put on record and this should be submitted together with the final report.

Should the candidate fail the repeat oral examination, his case will be put forward to the Chair of the School for further consideration. The case may also be reported through the Dean of College to Dean, Graduate College for approval.
Statement of Originality

I hereby certify that the work embodied in this thesis is the result of original research, is free of plagiarised materials, and has not been submitted for a higher degree to any other University or Institution.

[Input Date Here]  [Input Signature Here]

Date  [Input Name Here]
Supervisor Declaration Statement

I have reviewed the content and presentation style of this thesis and declare it is free of plagiarism and of sufficient grammatical clarity to be examined. To the best of my knowledge, the research and writing are those of the candidate except as acknowledged in the Author Attribution Statement. I confirm that the investigations were conducted in accord with the ethics policies and integrity standards of Nanyang Technological University and that the research data are presented honestly and without prejudice.

[Input Date Here]  [Input Supervisor Signature Here]

[Input Date Here]  [Input Supervisor Name Here]
Authorship Attribution Statement

This thesis contains material from [x number] paper(s) published in the following peer-reviewed journal(s) where I was the first and/or corresponding author.

Please amend the typical statements below to suit your circumstances.


The contributions of the co-authors are as follows:

- A/Prof Schmid provided the initial project direction and edited the manuscript drafts.
- I prepared the manuscript drafts. The manuscript was revised by Dr Hester and Dr. Blanchard.
- I co-designed the study with A/Prof Siegbert Schmid and performed all the laboratory work at the School of Materials Science and Engineering and the Singapore Synchrotron Light Source. I also analyzed the data.
- All microscopy, including sample preparation, was conducted by me in the Facility for Analysis, Characterization, Testing and Simulation.
- Dr James Hester assisted in the collection of the neutron powder diffraction data.
- Dr Peter Blanchard assisted in the interpretation of the X-ray absorption spectroscopy data and carried out the spectral interpretation.
- Dr Wojciech Müller assisted in the collection and provide guidance in the interpretation of the magnetic measurement data.

The contributions of the co-authors are as follows:

- Prof Ting suggested the materials area and edited the manuscript drafts.
- I wrote the drafts of the manuscript. The manuscript was revised together with Dr. Sartbaeva and Dr. Yao.
- I performed all the materials synthesis, collected X-ray diffraction patterns and visible light spectra, carried transmission electron microscopy, and conducted data evaluation.
- Dr. Y. Fang conducted the Rietveld analysis of the powder X-ray diffraction data and single crystal structure determinations.
- Dr U. Hintermair conducted the molecular dynamics simulations.
- Ms. A. Sartbaeva prepared the samples for electron microscopy.
THESIS TITLE

AUTHOR’S NAME

School of Humanities

A thesis submitted to the Nanyang Technological University in fulfilment of the requirement for the degree of Master of Arts

Name of School
Eg. NANYANG BUSINESS SCHOOL, SCHOOL OF MECHANICAL AND AEROSPACE ENGINEERING etc.

201X (Year of Submission of Hard Bound Thesis)

For candidates admitted before academic year 2005, it should be “in fulfilment”. For candidates admitted after academic year 2005, it should be “in partial fulfilment” instead.

Copy for Candidate
Request for a Replacement NTU Degree Certificate

NTU will provide a replacement degree certificate in situations where the original is lost or damaged. The replacement degree certificate will be printed using the prevailing NTU certificate format with the current NTU signatories and will contain the statement “Replacement copy” on the reverse page of the certificate.

The name printed in the replacement degree certificate must be identical to the original in accordance with the NTU official records. Any name change after graduation will not be reflected in the replacement degree certificate.

Please complete and submit this form together with the relevant supporting documents i.e. statutory declaration or police report for loss, and original certificate if it is damaged. For statutory declaration or police reports which are not in English, they are to be submitted together with translations in English. In the event that the original degree certificate is recovered after the replacement degree certificate has been issued, the graduate shall return the replacement copy to NTU.

The replacement fee is $107.00 (inclusive of GST) which must be made at the time of submitting your request. The request will only be processed upon receiving all documents required and the full payment of relevant fee. The processing time is about 4 weeks on receipt of request and payment.

<table>
<thead>
<tr>
<th>A: Personal Particulars</th>
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<tbody>
<tr>
<td>Full Name: (as it appears in the original certificate)</td>
<td>Click or tap here to enter text.</td>
</tr>
<tr>
<td>Matric No:</td>
<td>Click or tap here to enter text.</td>
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<tr>
<td>Mailing Address:</td>
<td>Click or tap here to enter text.</td>
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<tr>
<td>NRIC/Passport No:</td>
<td>Click or tap here to enter text.</td>
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<tr>
<td>Contact Number:</td>
<td>(Home) Click or tap here to enter text.</td>
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<td>Personal Email:</td>
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<th>B: Reason for Replacement (Please tick)</th>
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<tbody>
<tr>
<td>Loss / Theft [Submit police record or statutory declaration]</td>
<td>I agree if my original degree certificate is found, I will return the replacement degree certificate to the University.</td>
</tr>
<tr>
<td>Damage [Submit original degree certificate]</td>
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<th>C: Degree Details</th>
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<td>Degree Conferred:</td>
<td>Click or tap here to enter text.</td>
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<tr>
<td>Year of Graduation:</td>
<td>Click or tap here to enter text.</td>
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<tr>
<th>D: Collection / Mailing and Handling Fee (Please tick)</th>
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<tbody>
<tr>
<td>Collect personally from One Stop @ SAC, NS3-01-03 Academic Complex North.</td>
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</tr>
<tr>
<td>Registered mail (Singapore) [Please ensure a valid complete mailing address is entered under Section A]. Handling fee of $10.00 to be paid at point of submission.</td>
<td></td>
</tr>
<tr>
<td>Registered mail (overseas) [Please ensure a valid complete mailing address is entered under Section A]. Handling fee of $20.00 to be paid at point of submission.</td>
<td></td>
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</table>
**E: Mode of Payment (Please tick)**

Completed request form and original copy of police report or statutory declaration must be submitted together with payment.

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<thead>
<tr>
<th>Option</th>
<th>Details</th>
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<tbody>
<tr>
<td>☐ Counter payment at One-Stop @ SAC by NETS / Credit Card:</td>
<td>One Stop @ SAC&lt;br&gt;North Spine, NS3-01-03&lt;br&gt;50 Nanyang Avenue, Singapore 639798</td>
</tr>
<tr>
<td>☐ Modes of Payment: Cheque/Money Order/Bank Draft via mail:</td>
<td>Please make cheque amount payable to <em>Nanyang Technological University</em> and write your name, NRIC/Passport no., matric no. and contact number on the back of your cheque when submitting with this request form.</td>
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**F: Signature of Graduate**

Signature: ___________________________  Date: ___________________________

**G: For Office Use Only**

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<tr>
<th>Amount paid: $</th>
<th>Date of Payment:</th>
<th>Receipt No:</th>
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<th>Date of Mailing:</th>
<th>Remarks:</th>
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**Submission**

Please submit the request form and the required supporting documents to:

Office of Academic Services<br>Student and Academic Services Department<br>Nanyang Technological University<br>Student Services Centre Level 2<br>42 Nanyang Avenue<br>Singapore 639815

Tel: 6592 2448 (Bachelor Degree), 6790 4704 (Higher Degree)<br>Fax: 6791 1604 (Bachelor Degree), 6793 1140 (Higher Degree)

UPDATED_JUNE 2018
Application for Access Form (Experimental Medicine Building)

Require:

☐ Additional Access to Existing Staff/ Student Card
   ☐ Undergraduate Student    ☐ Post-graduate Student    ☐ Staff

☐ Temporary Access (New Card)
   ☐ Attachment Student/ Research Lab Attachment/ Research Lab Collaboration
   ☐ Visitor
   ☐ Others: ________________________________

Name: ____________________________________________

Designation: _______________________________________

NRIC/ FIN/ Matriculation: _______________________________

Contact (HP & Email): ________________________________

School/ Institute: ___________________________________

Period (dd/mm/yy): __________________________________

Access Timing:

☐ 24/7 Access    ☐ Mon – Friday, 8am – 6.30pm
   (if Public Holiday falls on weekday, access will be denied)

Note:

1. Application form shall be dropped at the LKCMedicine’s Operations & Resources pigeon hole located at EMB Admin Office and email to sunnyangly@ntu.edu.sg.

2. Undergraduate students are only allowed access to research facilities during office hours.

3. Please allow for 3 working days, for processing of request, before access is granted.
Access required:

<table>
<thead>
<tr>
<th>Please tick</th>
<th>Level 1 Facilities</th>
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<td>Learning Studio</td>
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<td></td>
<td>TBL Meeting Room</td>
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<tr>
<td></td>
<td>Administration Office</td>
</tr>
<tr>
<td></td>
<td>Seminar Room</td>
</tr>
<tr>
<td></td>
<td>Chemical Waste Room</td>
</tr>
<tr>
<td></td>
<td>Radioactive Waste Room</td>
</tr>
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</table>

<table>
<thead>
<tr>
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<th>Level 2 Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Teaching Lab</td>
</tr>
<tr>
<td></td>
<td>Teaching Lab Preparation Area / Store</td>
</tr>
<tr>
<td></td>
<td>Exercise Physiology Lab</td>
</tr>
<tr>
<td></td>
<td>General Store</td>
</tr>
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<table>
<thead>
<tr>
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<th>Level 3 / Level 4 Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Research Lab</td>
</tr>
<tr>
<td></td>
<td>RASS Office</td>
</tr>
<tr>
<td></td>
<td>Zebra Fish Facility</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Level 7 Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Histology Facility</td>
</tr>
<tr>
<td></td>
<td>Immunometabolism Lab</td>
</tr>
<tr>
<td></td>
<td>Super Res Microscope Room</td>
</tr>
<tr>
<td></td>
<td>Radioactive Lab</td>
</tr>
<tr>
<td></td>
<td>FACS Facility</td>
</tr>
<tr>
<td></td>
<td>Imaging Facility</td>
</tr>
<tr>
<td></td>
<td>Dark Room</td>
</tr>
</tbody>
</table>

**Requestor**

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Signature / Date</th>
</tr>
</thead>
</table>

**Approving Officer**

(Requestor’s Reporting Officer/ Department Head/ Principal Investigator)

<table>
<thead>
<tr>
<th>Name</th>
<th>Designation</th>
<th>Signature / Date</th>
</tr>
</thead>
</table>

Version 2
10/01/17
Application for Access Form (Clinical Sciences Building)

Require:

- Additional Access to Existing Staff/Student Card
  - Undergraduate Student
  - Post-graduate Student
  - Staff

- Temporary Access (New Card)
  - Attachment Student/Research Lab Attachment/Research Lab Collaboration
  - Visitor
  - Others: ____________________________________________

Name: ____________________________________________________

Designation: ______________________________________________

NRIC/ FIN/ Matriculation: ___________________________ D.O.B(ddmmyyyy): _____________

Contact (HP & Email): ______________________________________

School/ Institute: __________________________________________

Period(dd/mm/yy): _________________________________________

Access Timing:

- 24/7 Access
- Mon – Friday, 8am – 6.30pm
  (if Public Holiday falls on weekday, access will be denied)

Note:

1. Application form shall be dropped off at LKCMedicine’s Operations & Resources Office located at Level 2, HQ Building, and scanned copy emailed to sunnyangly@ntu.edu.sg.

2. Undergraduate students are only allowed access to research facilities during office hours.

3. Please allow for 5 working days, for processing of request, before access is granted.
Access required:

<table>
<thead>
<tr>
<th>Please tick</th>
<th>Level B1 Facilities</th>
<th>Please tick</th>
<th>Level 4 Facilities</th>
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<tbody>
<tr>
<td></td>
<td>Chemical Waste Room</td>
<td></td>
<td>General Store</td>
</tr>
<tr>
<td></td>
<td>Radioactive Waste Room</td>
<td></td>
<td>MERSU Office</td>
</tr>
<tr>
<td></td>
<td>Seminar Room</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Please tick</th>
<th>Level 6 Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>E-Learning/ IT Systems &amp; Services (eLITe)</td>
<td></td>
<td>Academic Affairs</td>
</tr>
<tr>
<td></td>
<td>Practical Skills Lab Store</td>
<td></td>
<td>Communication Suite</td>
</tr>
<tr>
<td></td>
<td>Learning Studio</td>
<td></td>
<td>Office of Medical Education</td>
</tr>
<tr>
<td></td>
<td>Practical Skills Lab</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seminar Room 5</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>TBL Faculty Meeting Room</td>
<td></td>
<td></td>
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<table>
<thead>
<tr>
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<th>Level 7 Facilities</th>
<th>Please tick</th>
<th>Level 8 Facilities</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Anatomy Learning Centre</td>
<td></td>
<td>Gym</td>
</tr>
<tr>
<td></td>
<td>Anatomy Resource Centre</td>
<td></td>
<td>LKCMedicine MedSoc Meeting Room</td>
</tr>
<tr>
<td></td>
<td>Anatomy Store</td>
<td></td>
<td>Music Room</td>
</tr>
<tr>
<td></td>
<td>Office of Medical Education – North Wing</td>
<td></td>
<td>Student House Rooms</td>
</tr>
<tr>
<td></td>
<td>Office of Medical Education – South Wing</td>
<td></td>
<td>Student Lounge</td>
</tr>
<tr>
<td></td>
<td>Seminar Room 7-1</td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Seminar Room 7-2</td>
<td></td>
<td></td>
</tr>
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<table>
<thead>
<tr>
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<th>Level 10/11/12 Facilities</th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Research Lab</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Requestor**

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</table>

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<th>Designation</th>
<th>Signature / Date</th>
</tr>
</thead>
</table>
# STUDENT CONFERENCE FUNDING APPLICATION FORM

## Notes to applicants:
1. Please read the guidelines indicated in Annex A before completing this form.
2. Please submit your application at least 6 weeks before the commencement of the conference, or at least 6 weeks before the date that registration/other fees need to be paid (if applicable), whichever is earlier.
3. Please complete Parts I-II and submit it with required supporting documents to Graduate Studies team (for Ph.D. students) at Clinical Sciences Building, Academic Affairs Office, Level 6.

## Part I - To be Completed by Student

### 1. Personal Particulars

<table>
<thead>
<tr>
<th>Name:</th>
<th>Matriculation Number:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Programme of Study:</td>
<td></td>
</tr>
<tr>
<td>☐ MBBS</td>
<td>☐ Ph.D.</td>
</tr>
<tr>
<td>Year of Study:</td>
<td></td>
</tr>
<tr>
<td>Email:</td>
<td>Contact Number:</td>
</tr>
</tbody>
</table>

### 2. Conference Details

| Title: | |
| Venue: | |
| Organiser: | |
| Date: From (dd/mm/yyyy) to (dd/mm/yyyy) | |

### 3. Nature of Participation

- [ ] Attendee (local conference)
- [ ] 1st or co-presenting author of an oral/poster* presentation (local conference)
- [ ] 1st author of an oral/poster* presentation (overseas)

* Please delete as appropriate.

### 4. Details of Paper/Poster to be presented at Conference (if applicable)

| Title of Paper/Poster: | |
| Authors/Co-authors: | |

Student’s involvement in the project:

- [ ] Proposition of Research Question
- [ ] Data Collection
- [ ] Analysis of Results
- [ ] Others (Please Specify):

Name and Designation of Project Supervisor:

Is your Supervisor attending the conference with you? (For overseas conference only)
- [ ] Yes
- [ ] No
5. Please state the objectives to be achieved by attendance at this conference

6. Funding requested (subject to approval). Please provide details:

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Actual Cost (S$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Registration fee for local/overseas* conference</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Airfare for overseas conference</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Accommodation and transportation expenses</td>
<td></td>
</tr>
</tbody>
</table>

Total:                                                                                     

* Please delete as appropriate.

7. Funding received from other sources for attending the conference.

☐ No

☐ Yes. Please attach a copy of relevant correspondence.

Source of funding: __________________________

Amount: __________________________

8. Acknowledgement

I accept full responsibility to ensure that the information provided is accurate. I understand that my application will not be approved if I do not submit a complete application form with the relevant required documents.

Signature of Student: __________________________ Date: (dd/mm/yyyy) __________________________
Part II – To be completed by Supervisor

Application is Recommended:  ☐ Yes  ☐ No

Period of Conference Leave is Approved:  ☐ Yes  ☐ No
(for Ph.D. student only)

Comments:

Recommended by:  __________________________
(Name and Signature)  __________________________

Date:  (dd/mm/yy)  __________________________

Job Title / Position:  __________________________

Part III - To be Completed by PhD Programme Director

Approval of Application:  ☐ Yes  ☐ No

Amount Awarded:

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Amount Approved (S$)</th>
</tr>
</thead>
<tbody>
<tr>
<td>a.</td>
<td>Registration fee for local/overseas conference</td>
<td></td>
</tr>
<tr>
<td>b.</td>
<td>Airfare for overseas conference</td>
<td></td>
</tr>
<tr>
<td>c.</td>
<td>Accommodation and transportation expenses</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Total:</td>
<td></td>
</tr>
</tbody>
</table>

If No, Reason(s) for Not Approving:

Approved by:
(Name and Signature)  __________________________

Date:  (dd/mm/yy)  __________________________

Job Title/Position:  __________________________
<table>
<thead>
<tr>
<th>Comments/Remarks regarding Grant Amount (and any other necessary details):</th>
</tr>
</thead>
<tbody>
<tr>
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<th>Date: (dd/mm/yy)</th>
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<table>
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<th>Disbursement Approval Given by</th>
<th>Date: (dd/mm/yy)</th>
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<tbody>
<tr>
<td>(Name and Signature)</td>
<td></td>
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<table>
<thead>
<tr>
<th>Job Title/Position:</th>
</tr>
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</tbody>
</table>
ANNEX A

1. Guidelines

Local Conference Allowance

The School provides local conference attendance allowance of $200 per student, and local conference presentation allowance of $700 per student during their candidature at LKCMedicine. This allowance may be used for payment of conference registration fee at approved local conferences only. To apply for local conference presentation allowance, applicant must be the 1st or co-presenting author of an oral/poster/paper/abstract presentation.

Subject to meeting the above conditions, as applicable, the maximum number of local conference funding allocations per academic year is two.

Overseas Conference Allowance

Applicant must be the 1st author of an oral/poster/paper/abstract accepted for presentation at the approved overseas conference. Funding will be limited to one conference presentation per student per candidature.

The terms of conference funding:
- Reimbursement of actual economy-class return airfare* based on the lowest airfare quotation (using NTU’s appointed travel agent);
- Up to 100% of registration fee; and
- Accommodation and transportation expenses, subject to approval.

* Travel insurance fee is not covered by the School's funding. The fee is to be borne by the student.

The total financial funding is subject to a maximum quantum of funding cap as shown below:

<table>
<thead>
<tr>
<th>Country/Region</th>
<th>Maximum Funding</th>
</tr>
</thead>
<tbody>
<tr>
<td>United States, Canada &amp; Europe (Region 1)</td>
<td>S$2,500</td>
</tr>
<tr>
<td>Asia Pacific &amp; India (Region 2)</td>
<td>S$1,600</td>
</tr>
<tr>
<td>Other countries (Region 3)</td>
<td>S$1,000</td>
</tr>
</tbody>
</table>

2. Application Procedure

Student completes the conference funding application with supporting documents and submits to Graduate Studies team at Clinical Sciences Building, Academic Affairs Office, Level 6.

3. Supporting Documents Required

   i. Conference brochure/official handout on conference.
   ii. Correspondence from organiser pertaining to participation or invitation to the conference.
   iii. Correspondence regarding the acceptance of paper/poster for conference presentation.
   iv. Copy of the paper/abstract for conference presentation.
   v. Documentation evidence of registration fee to be paid.
   vi. Airfare quotation for airfare from NTU authorised travel agent (PriceBreaker (Pacific Area Pte Ltd) and Safe2Travel Pte Ltd)
   vii. Supervisor’s approval for Conference Leave in Part II
viii. The presentation materials should reflect the student’s identity and the school to qualify for the LKCMedicine Conference Funding.

E.g.

<table>
<thead>
<tr>
<th>Student's Name</th>
<th>OR</th>
<th>Student's Name</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lee Kong Chian School of Medicine, Nanyang Technological University, Singapore</td>
<td></td>
<td>Lee Kong Chian School of Medicine, NTU Singapore</td>
</tr>
</tbody>
</table>

ix. The title of the poster, name(s) of authors and supervisors, institution should be prominently displayed, together with the school logo. The school logo should not be distorted or resized less than 8cm width.

For poster presentation, please refer to the school templates.

![Research Poster Template (A0 Size) _Portrait.pptx](#) ![Research Poster Template (A0 Size) _Landscape.pptx](#) ![Research Poster Template (A0 Size) _Portrait.pptx](#) ![Research Poster Template (A0 Size) _Landscape.pptx](#)

4. **After the Conference**

Students must submit a reflective piece of their conference attendance/participation within a month of the conference to gradprog_lkcmedicine@ntu.edu.sg
REQUEST FORM FOR

NAME CARDS – CSB / EMB

Complete all section in **blue**:

<table>
<thead>
<tr>
<th>NAME (on name card) :</th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>CREDENTIAL(S) if any :</td>
<td></td>
</tr>
<tr>
<td>JOB TITLE :</td>
<td></td>
</tr>
<tr>
<td>DEPARTMENT :</td>
<td></td>
</tr>
</tbody>
</table>

| ADDRESS | Lee Kong Chian School of Medicine  
Novena Campus  
Clinical Sciences Building, Level ??  
11 Mandalay Road  
Singapore 308232 |
<table>
<thead>
<tr>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>TEL</td>
<td>(65)</td>
</tr>
<tr>
<td>FAX</td>
<td>(65) 6339 2889</td>
</tr>
<tr>
<td>EMAIL ADDRESS</td>
<td>?????@ntu.edu.sg</td>
</tr>
<tr>
<td>NO. OF BOXES REQUIRED</td>
<td>Select from drop-down list: Choose an item.</td>
</tr>
</tbody>
</table>

Average delivery time for name card is 4 to 6 weeks.

Please email completed form to Jacquelynn Hor at jacquelynnhor@ntu.edu.sg