# MRGO5104 Research Methodology & Biostatistics (1 Credit units)

研究方法學及生物統計學

Module Head: Dr. Louis Cheung  Last update: 30/8/2021					
Session	1	2	3	4	Exam
Date	6/9 (M)	13/9 (M)	20/9 (M)	27/9 (M)	27/11 (Sat)
Time	1830 – 2130	1830 – 2130	1830 – 2130	1830 – 2130	PM
Venue	Rm EF	Rm EF	Rm EF	PEC SR2-3	

Content	Speakers	Session	Date / Time
Research Designs:  a) How to develop a "Good" topic? b) How to Propose a Sound Hypothesis? c) Randomization and Blinding d) Considerations of Different Study Designs  Ethics & Critically appraising the journal articles a) Research Ethics and Plagiarism (also anti-Plagiarism systems, e.g. VeriGuide) b) Preparing A Scientific Report	Professor Louis Cheung	1	6/9/2021 (M) 18:30-21:30
Systematic literature review and Meta-analysis methodology	Professor Pauline Lui	2	13/9/2021 (M) 18:30-21:30
Introduction of Data Analysis:  a) Principle of Biostatistics b) Sampling Distributions and Confidence Intervals  Basic Theory and Practical Guide to: a) Hypothesis Testing (paired and independent t-test) and ANOVA b) Chi-square test c) Correlation	Professor TP Lam	3	20/9/2021 (M) 18:30-21:30
Clinical Studies & Trial: Causation Clinical Studies & Trial: Association & correlation	Mr. Raymond Tsang	4	27/9/2021 (M) 18:30-21:30
Written Examination			

### Venue:

Rm EF Room E & F, Clinical Skill Learning Center, 2/F, Lui Che Woo Clinical Sciences Building, Prince of Wales Hospital

Seminar Room 2 & 3, 1/F, Postgraduate Education Centre (PEC), Prince of Wales Hospital PEC SR2-3

### **Recommended Reading:**

Mohit Bhandari, Anders Joensson. Clinical Research for Surgeons. Thieme, Stuttgart. 2009. [ISBN 978-3-13-143931-4]

## **Brief Description:**

This course aims to provide basic knowledge of biostatistics and research methodology.

本科目旨在提供生物統計學和研究方法的基礎知識。

#### **Learning Outcome:**

Students should be able to understand and apply:

- 1. Principles of evidence-based research
- 2. Research, academic conduct and anti-plagiarism measures
- 3. Principles of biostatistics

#### **Assessment:**

End of Module Examination (100%)

Date: 27/11/2021 (Sat)

Time: 14:00 – 15:00 (to be confirmed)

Online / face-to-face (Venue: OLC, PWH (to be confirmed))

### **Speakers:**

Professor Louis Cheung, BSc, PhD, Postgrad Cert (Biostatistics)

Deputy Director, MSc in Musculoskeletal Medicine, Rehabilitation and Geriatric Orthopaedics (Geri-Ortho Stream)

Deputy Director, Musculoskeletal Research Laboratory

Professor (non-clinical), Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong

<u>Professor Pauline Lui, Ph.D.</u> in Biochemistry, PgDip in Clinical Trial Research Methodology, PgCert in Pharmacology and Pharmaceutical Management Associate Professor, Department of Orthopaedics & Traumatology, the Chinese University of Hong Kong

<u>Professor TP Lam</u>, MBBS, FHKAM(Orth Surg), FHKCOS (Ortho Surg), FRCSEd, FHKCS

Associate Professor (Clinical), Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong

Mr. Raymond Tsang, MScHC(PT), MMedSc(Med Stat), FHKCOP

Department Manager, Physiotherapy Department, MacLehose Medical Rehabilitation Centre