MRGO5104 Research Methodology & Biostatistics (1 Credit units) **2026/27**

研究方法學及生物統計學

Module Head: Professor Louis Cheung **Last update: 7/8/2026**

Session	1	2	3	4	Exam
Date	7/9 (M)	14/9 (M)	21/9 (M)	28/9 (M)	10/10 (Sat)
Time	1830 – 2130	1830 – 2130	1830 – 2130	1830 – 2130	PM
Venue	PEC KCT	PEC KCT	PEC KCT	PEC KCT	*To be confirmed*

Topic	Content	Speakers	Session	Date
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	Professor Louis Cheung	1	7/9 (Mon)
Ethics & Critically appraising the journal articles	a) Research Ethics and Plagiarism (also anti-Plagiarism systems, e.g. VeriGuide) b) Preparing A Scientific Report			
Introduction of Data Analysis:	a) Principle of Biostatistics b) Sampling Distributions and Confidence Intervals	Dr. C Cui	2	14/9 (Mon)
Basic Theory and Practical Guide to:	a) Hypothesis Testing (paired and independent t-test) and ANOVA b) Chi-square test			
Clinical Studies & Trial: Causation, Association & correlation		Professor Raymond Tsang	3	21/9 (Mon)
Systematic literature review and Meta-analysis methodology		Professor Pauline Lui	4	28/9 (Mon)
Written Examination			----	10/10 (Sat)

Venue:

PEC KCT Kai Chong Tong lecture theatre, G/F, Postgraduate Education Centre, Prince of Wales Hospital

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: 10/10/2026 (Sat)
Time: 14:00 – 15:00 *(to be confirmed)*
Venue: CUHK Campus *(to be confirmed)*

Attention: University policy and regulations on honesty in academic work

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With each assignment, students will be required to submit a signed declaration that they are aware of these policies, regulations, guidelines and procedures.

- In the case of group projects, all members of the group should be asked to sign the declaration, each of whom is responsible and liable to disciplinary actions, irrespective of whether he/she has signed the declaration and whether he/she has contributed, directly or indirectly, to the problematic contents.
- For assignments in the form of a computer-generated document that is principally text-based and submitted via VeriGuide, the statement, in the form of a receipt, will be issued by the system upon students' uploading of the soft copy of the assignment.

Assignments without the properly signed declaration will not be graded by teachers.

Only the final version of the assignment should be submitted via VeriGuide.

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Speakers:

Professor Louis Cheung, BSc, PhD, Postgrad Cert (Biostatistics)
Deputy Director, MSc in Musculoskeletal Medicine, Rehabilitation and Geriatric Orthopaedics
Deputy Director, Musculoskeletal Research Laboratory
Professor (non-clinical), Department of Orthopaedics & Traumatology, The Chinese University of Hong Kong

Dr. C Cui, PhD, MSc MMR(CUHK)
Post-doc fellow, Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong

Professor Raymond Tsang, MScHC(PT), MMedSc(Med Stat), FHKCOP
Professor of Practice, Department of Rehabilitation Sciences, The Hong Kong Polytechnic University

Professor Pauline Lui, Ph.D. 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