Last update: 22/7/2024

# MRGO5104 Research Methodology & Biostatistics (1 Credit units)

研究方法學及生物統計學

**Module Head: Professor Louis Cheung** 

Session	1	2	3	4	Supplementary	Exam
Date	2/9 (M)	9/9 (M)	23/9 (M)	7/10 (M)	14/10 (M)	26/10 (Sat)
Time	1830 – 2130	1830 – 2130	1830 – 2130	1830 – 2130	1830 – 2130	PM
Venue	CSB LT	YIA LT5	YIA LT5	CSB LT	CSB LT	YIA 503 (TBC)

Topic	Content	Speakers	Session	Date
Research Designs:	<ul> <li>a) How to develop a "Good" topic?</li> <li>b) How to Propose a Sound Hypothesis?</li> <li>c) Randomization and Blinding</li> <li>d) Considerations of Different Study Designs</li> </ul>	Professor Louis Cheung	1	2/9 (Mon)
Ethics & Critically appraising the journal articles	<ul><li>a) Research Ethics and Plagiarism (also anti-Plagiarism systems, e.g. VeriGuide)</li><li>b) Preparing A Scientific Report</li></ul>	3 11 8		
Introduction of Data Analysis:  Basic Theory and Practical Guide to:	<ul> <li>a) Principle of Biostatistics</li> <li>b) Sampling Distributions and Confidence Intervals</li> <li>a) Hypothesis Testing (paired and independent t-test) and ANOVA</li> <li>b) Chi-square test</li> </ul>	Dr. TP Lam	2	9/9 (Mon)
Clinical Studies & Trial: Causation Clinical Studies & Trial: Association & o	Mr. Raymond Tsang	3	23/9 (Mon)	
Systematic literature review and Meta	Professor Pauline Lui	4	7/10 (Mon)	
Applying for Ethical Approval	- How to submit application through CREC system & SBRE	Professor Pauline Lui	Supplementary	14/10 (Mon)
Written Examination			26/10 (Sat)	

### Venue:

CSB LT Lecture Theatre, 2/F, Lui Che Woo Clinical Sciences Building, Prince of Wales Hospital

YIA LT5 Lecture Theatre 5, 2/F, Yasumoto Academic Park, Lower level, The Chinese University of Hong Kong

YIA 503 Room YIA 503 5/F, Yasumoto Academic Park, Lower level, The Chinese University of Hong Kong

## **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: 26/10/2024 (Sat)

Time: 14:00 – 15:00 (to be confirmed)

Venue: YIA 503, CUHK Campus (to be confirmed)

## Attention: University policy and regulations on honesty in academic work

Attention is drawn to University policy and regulations on honesty in academic work, and to the disciplinary guidelines and procedures applicable to breaches of such policy and regulations. Details may be found at <a href="http://www.cuhk.edu.hk/policy/academichonesty/">http://www.cuhk.edu.hk/policy/academichonesty/</a>.

With each assignment, students will be required to submit a signed <u>declaration</u> 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.

The submission of a piece of work, or a part of a piece of work, for more than one purpose (e.g. to satisfy the requirements in two different courses) without declaration to this effect shall be regarded as having committed undeclared multiple submissions. It is common and acceptable to reuse a turn of phrase or a sentence or two from one's own work; but wholesale reuse is problematic. In any case, agreement from the course teacher(s) concerned should be obtained prior to the submission of the piece of work.

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## **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>Dr. TP Lam</u>, MBBS, FHKAM(Orth Surg), FHKCOS (Ortho Surg), FRCSEd, FHKCS Clinical Professional Consultant, Department of Orthopaedics and Traumatology, The Chinese University of Hong Kong

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