# MRGO5104Research 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	4/9 (M)	11/9 (M)	18/9 (M)	25/9 (M)	6/10 (F)	11/11 (Sat)
Time	1830 - 2130	1830 – 2130	1830 – 2130	1830 – 2130	1830 - 2130	PM
Venue	CSLC EF	CSLC EF	CSLC EF	CSLC EF	WMY306	(TBC)

Торіс	Content	Speakers	Session	Date
Research Designs:	a) How to develop a "Good" topic?			
	b) How to Propose a Sound Hypothesis?		1	4/9 (Mon)
	c) Randomization and Blinding	Professor Louis		
	d) Considerations of Different Study Designs	Cheung		
Ethics & Critically appraising the	a) Research Ethics and Plagiarism (also anti-Plagiarism systems, e.g.	encung		
<mark>journal articles</mark>	VeriGuide)			
	b) Preparing A Scientific Report			
Systematic literature review and Meta				
		Professor Pauline Lui	2	11/9 (Mon)
Clinical Studies & Trial: Causation	Mr. Raymond Tsang	3	18/9 (Mon)	
Clinical Studies & Trial: Association & c	Will Raymond Toding	5	10/0 (1001)	
Introduction of Data Analysis:	a) Principle of Biostatistics			
	b) Sampling Distributions and Confidence Intervals			
<b>Basic Theory and Practical Guide to:</b>	a) Hypothesis Testing (paired and independent t-test) and ANOVA	Dr. TP Lam	4	25/9 (Mon)
	b) Chi-square test			
	c) Correlation			
Applying for Ethical Approval	- How to submit application through CREC system & SBRE	Professor Pauline Lui	Supplementary	6/10 (Fri)
Written Examination			11/11 (Sat)	

#### Venue:

CSLC EFRoom E & F, Clinical Skill Learning Center, 2/F, Lui Che Woo Clinical Sciences Building, Prince of Wales HospitalWMY306Room 306, Wu Ho Man Yuen Building, Chung Chi College, the Chinese University of Hong Kong, Shatin(TBC)To be Confirmed

#### **Recommended Reading:**

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

Last update: 3/8/2023

## **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: 11/11/2023 (Sat) Time: 14:00 – 15:00 (to be confirmed) Online / face-to-face (Venue: OLC, PWH (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 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:

<u>Professor Louis Cheung</u>, 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</u>, 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

<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

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