



## MMPH6117 Advanced Statistical Methods I (Semester 2)

**Coordinator: Dr EHY Lau**

**Course Description:**

This course covers generalized linear models, meta-analysis, and instrumental variable analysis. This course will provide a practical overview of commonly used biostatistical methods, building on the basic methods introduced in CMED6100.

**Prerequisite:** CMED6100 Introduction to Biostatistics

**Term 2 (Monday and Thursday/Saturday)**

**Contact person: Mr Alan Dai**

Date	Time	Lecture Topic	Lecturer / Tutor	Venue
16 Jan 2023	6:30 – 9:00 pm	1. Introduction to R	Dr EHY Lau	ULT2
30 Jan 2023	6:30 – 9:00 pm	2. Regression model in R	Dr EHY Lau	ULT2
02 Feb 2023 (Thur)	2:00 – 5:00 pm	3. Tutorial 1	Dr EHY Lau / Mr Alan Dai	ULT2
04 Feb 2023 (Sat)	2:00 – 5:00 pm	3. Tutorial 1	Dr EHY Lau / Mr Alan Dai	ULT2
06 Feb 2023	6:30 – 9:00 pm	4. Applied regression I	Dr EHY Lau	ULT1
13 Feb 2023	6:30 – 9:00 pm	5. Applied regression II	Dr EHY Lau	ULT2
20 Feb 2023	6:30 – 9:00 pm	6. Applied regression III	Dr EHY Lau	ULT2
23 Feb 2023 (Thur)	2:00 – 5:00 pm	7. Tutorial 2	Dr EHY Lau / Mr Alan Dai	ULT2
25 Feb 2023 (Sat)	2:00 – 5:00 pm	7. Tutorial 2	Dr EHY Lau / Mr Alan Dai	ULT2
27 Feb 2023	6:30 – 9:00 pm	8. Conditional logistic regression and propensity score method	Dr EHY Lau	ULT2
06 Mar 2023	6:30 – 9:00 pm	9. Inverse probability weighting and meta analysis	Dr EHY Lau	ULT2
13 Mar 2023	6:30 – 9:00 pm	10. Instrumental variable analysis	Dr EHY Lau	ULT2
23 Mar 2023 (Thur)	2:00 – 5:00 pm	11. Tutorial 3	Dr EHY Lau / Mr Alan Dai	ULT2
25 Mar 2023 (Sat)	2:00 – 5:00 pm	11. Tutorial 3	Dr EHY Lau / Mr Alan Dai	ULT2
03 Apr 2023	6:30 – 9:00 pm	Examination	-	ULT2

**Course Assessment:**

Written assignment: 30%  
Final examination: 70%

**Recommended Reading**

1. Everitt B.S. and Hothorn T. A handbook of statistical analyses using R. Boca Raton, Florida: Chapman & Hall, 3rd edition, 2014.
2. Forthofer RN, Lee E, Hernandez M. Biostatistics: A guide to design, analysis, and discovery. 2nd edition. Boston: Elsevier Academic Press, 2007.
3. Frank E. Harrell. Regression Modeling Strategies: With Applications to Linear Models, Logistic Regression, and Survival Analysis. New York: Springer, 2010.

ULT1, 2: T1,T2, Underground Lecture Theatre, LG 1/F, New Clinical Building, Queen Mary Hospital, HK.

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Mr Eric Chan – email: [kpchanaa@hku.hk](mailto:kpchanaa@hku.hk), Tel: 3917 6350.