CMED 6020 Advanced statistical methods I

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
11 Jan 2021	6:30 – 9:00 pm	1. Introduction to R	Dr EHY Lau	online
18 Jan 2021	6:30 – 9:00 pm	2. Regression model in R	Dr EHY Lau	online
21 Jan 2021 (Thur)	2:00 – 5:00 pm	3. Tutorial 1	Dr EHY Lau / Mr Alan Dai	online
23 Jan 2021 (Sat)	2:00 – 5:00 pm	3. Tutorial 1	Dr EHY Lau / Mr Alan Dai	online
25 Jan 2021	6:30 – 9:00 pm	4. Applied regression I	Dr EHY Lau	online
01 Feb 2021	6:30 – 9:00 pm	5. Applied regression II	Dr EHY Lau	online
22 Feb 2021	6:30 – 9:00 pm	6. Applied regression III	Dr EHY Lau	online
25 Feb 2021 (Thur)	2:00 – 5:00 pm	7. Tutorial 2	Dr EHY Lau / Mr Alan Dai	online
27 Feb 2021 (Sat)	2:00 – 5:00 pm	7. Tutorial 2	Dr EHY Lau / Mr Alan Dai	online
01 Mar 2021	6:30 – 9:00 pm	8. Conditional logistic regression and propensity score method	Dr EHY Lau	online
08 Mar 2021	6:30 – 9:00 pm	9. Inverse probability weighting and meta analysis	Dr EHY Lau	online
15 Mar 2021	6:30 – 9:00 pm	10. Instrumental variable analysis	Dr EHY Lau	online
18 Mar 2021 (Thur)	2:00 – 5:00 pm	11. Tutorial 3	Dr EHY Lau / Mr Alan Dai	online
20 Mar 2021 (Sat)	2:00 – 5:00 pm	11. Tutorial 3	Dr EHY Lau / Mr Alan Dai	online
29 Mar 2021	6:30 – 9:00 pm	Examination	-	online

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.

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