<div align="center">**Course Description**</div>
<div align="center">**MEDD8815 Introduction to Statistical Methods**</div>

Course description
This course is designed to introduce students to the most commonly used statistical methods in educational and social science research. No prior knowledge of statistics is required, but essentials of arithmetic and basic algebra will be used throughout the course. Topics covered in this course include descriptive statistics, graphical representations, correlation, basic probability, sampling distributions, confidence intervals, hypothesis testing, t-tests, chi-square test, analysis of variance, regression, and classical psychometric analysis.   **Coursework / Examination ratio:** ___100___ % Coursework, ___0___ % Examination

Course objectives
This course aims to help students gain basic statistical literacy. In addition to being able to carry out basic statistical analyses on their own, students who finish this course are expected be able to read and understand journal publications that employ these methods. This course also aims to provide the necessary background for students to take more advanced research methods courses (e.g., Factor Analysis, Structural Equation Modeling), as well as courses in Measurement.

Course learning outcomes (CLOs)	**Aligned programme learning outcomes (PLOs)**
1. Understand the proper use and implementation of descriptive statistics and graphical representations	PLOs 1, 2
2. Understand basic probability theory and distributions of random variables, and how they form the foundation of statistical analyses	PLOs 1, 3
3. Understand the appropriateness of different statistical methods in relation to various data types and research questions	PLOs 1, 2
4. Carry out the basic statistical analyses using computer software, in particular, SPSS	PLO 1
5. Interpret and make decisions based on the statistical test results	PLOs 4, 5

Course assessment methods

Assessment method	Weighting (%)	Aligned course learning outcome(s)
Homework assignments	60	CLOs 1-3
Weekly Quiz	35	CLOs 1-3
Class and online discussions	5	CLOs 1-3

Course content and topics

1   Looking at Data – Distributions   2   Looking at Data – Relationships   3   Producing Data & Probability   4   Sampling Distributions & Inference   5   Inference for Means and Two-Way Tables   6   Inference for Simple and Multiple Regression   7   One- and Two-Way Analysis of Variance   8   Classical Psychometric Analysis

Required / recommended readings and online materials

Moore, D. S., McCabe, G. P., & Craig, B. (2014). *Introduction to the practice of statistics*. (8th ed). New York: W. H. Freeman.   **Computer Software:**   Statistical software SPSS will be used for computer exercise. HKU students can install SPSS in their own PC for free at https://its.hku.hk/software/spss-products/. Please refer to the HKU ITS (https://www.its.hku.hk/service-desk) for any queries about the installation.

Other additional course information
Advanced Research Method course