

Macao Polytechnic Institute
School of Health Sciences and Sports
Bachelor of Science in Speech-Language Therapy
Module Outline

Academic Year 2020 / 2021 Semester 1

Learning Module	Statistics			Class Code	STST2101
Pre-requisite(s)	Nil				
Medium of Instruction	English and Cantonese			Credit	2
Lecture Hours	28 hours	Lab/Practice Hours	2 hours	Total Hours	30 hours
Instructor	Ken Gu Asso/Prof.		E-mail	kengu@ipm.edu.mo	
Office	M729, Meng Tak Building Main Campus		Telephone	85993439	

Description

This is a necessary course for year-two speech-language therapy students. There are total 30 hours for this course. The course will focus on the data collection, management and analysis and other statistic application. The students will get more understanding theoretically and practically in the statistics which include statistical tables, index, probability concepts and distributions, statistical hypothesis, correlation, regression, chi-square, t-test, ANOVA, multiple regression and non-parametric analysis etc.

Learning Outcomes

After completing the course, students will be able to:

1. understand statistical methods and concepts
2. use the statistical skills in research projects
3. think critically based on the evidence

Content

- 1 Basic concepts for statistics and data description (8 hours)
 - 1.1. Concepts of biostatistics. Its application, classification and terminology
 - 1.2. Review of descriptive statistic (Frequency distribution, graphics, percentile, central tendency and dispersion) , Normal distribution
 - 1.3. Probability, Definition of statistical hypothesis, its classification and testing
2. Bivariate and multivariate analysis (18 hours)
 - 2.1. Linear regression and correlation coefficient, Rate application and adjustment (1)
 - 2.2. t test and Analysis of Variance
 - 2.3. Ratio application and Chi-square test
 - 2.4. Multiple regression and Logistic regression
 - 2.5. Other Nonparametric Statistical Methods
 - 2.6. The explanation of the results
3. Group project presentation (2 hours)

Class Practice (2 hours)

Date & Time	Practice Item	Practice Title	Students / Group	Mode of Practice	Practice Requirement
18/12/20	Group works	Result presentation	all	Powerpoint	Self select topic

Teaching Method

Power point presentation.

Attendance

Attendance requirements are governed by the “Academic Regulations Governing Bachelor’s Degree Programmes of Macao Polytechnic Institute”. Students are not eligible to attend the final examination and re-sit examination if the absence rate exceeds 30%. Moreover, an “F” will be given as the final grade to students who have less than the stated attendance for this enrolled learning module.

Assessment

This learning module is graded on a 100 point scale, with 100 being the highest possible score and 50 the pass score. **Any students scoring less than 35% of the total mark in the final examination will be given an “F” grade for the course even if the overall grade is 50% or higher).**

	Item	Description	Percentage
1.	Homework	Quizzes for the homework	15%
2.	Group Project	Use the available data to select a topic and conduct literature review, study design, data analysis, result report and do presentation	15 %
3.	Final exam	Content of the course	70 %

Total Percentage: 100%

Teaching Material(s)

Reference

Reference book(s)

馬燕（編）（2006）。*衛生統計學*。北京：人民衛生。

Scott I, Mazhindu D (2014). *Statistics for Healthcare Professionals (Second Edition): An Introduction*. SAGE Publications. ISBN-13: 978-1446208939 or ISBN-10: 1446208931.

Timetable:

Session	Date	Time	Topic
1	11/9/20	9:00-11:00	Concepts of biostatistics. Its application, classification and terminology such as population, sample;
2	18/9/20	9:00-11:00	Descriptive statistic 2 (Frequency distribution, graphics, percentile, central tendency and dispersion)
3	25/9/20	9:00-11:00	Normal distribution and Probability
4	9/10/20	9:00-11:00	Definition of statistical hypothesis, its classification and testing
5	16/10/20	9:00-11:00	Correlation and Regression
6	23/10/20	9:00-11:00	t test
7	30/10/20	9:00-11:00	Analysis of Variance
8	6/11/20	9:00-11:00	Rates and Rate adjustment,
9	13/11/20	9:00-11:00	Ratio application and
10	20/11/20	9:00-11:00	Chi-square test
11	27/11/20	9:00-11:00	Multiple regression
12	4/12/20	9:00-11:00	Logistic regression and Other Nonparametric Statistical Methods
13	11/12/20	9:00-11:00	Understand statistic analysis results
14	18/12/20	9:00-11:00	Group Project presentation
15	8/1/21	9:00-11:00	Final exam.