COM8007: MULTIVARIATE ANALYSIS IN COMMUNICATION RESEARCH

Effective Term
Semester B 2024/25

Part I Course Overview

Course Title
Multivariate Analysis in Communication Research

Subject Code
COM - Media and Communication
Course Number
8007

Academic Unit
Media and Communication (COM)

College/School
College of Liberal Arts and Social Sciences (CH)

Course Duration
One Semester

Credit Units
3

Level
R8 - Research Degree

Medium of Instruction
English

Medium of Assessment
English

Prerequisites
Nil

Precursors
Nil

Equivalent Courses
Nil

Exclusive Courses
Nil

Part II Course Details

Abstract

The course aims to:

provide post-graduate research students with a working knowledge of the assumptions, concepts, and theories underlying the most frequently used multivariate analysis techniques in quantitative social and behavioural sciences. These techniques include, but are not limited to, multiple regression, logistic regression, exploratory and confirmatory factor analysis, path analysis, structural equation modelling (SEM), and multilevel analysis. The selection of specific topics may be tailored to students' research needs each semester. The focus will be on practical issues such as selecting the appropriate analysis, preparing data for analysis in the popular statistical packages (e.g., SPSS and AMOS) or popular programming languages (e.g., R or Python), interpreting output, and presenting results of a complex nature.

The course addresses both the underlying mathematics and problems of applications. As such, a reasonable level of competence in both statistics and mathematics is needed.

Course Intended Learning Outcomes (CILOs)

	CILOs	Weighting (if app.)	DEC-A1	DEC-A2	DEC-A3
1	Describe the basic assumptions, concepts, theories, and applications of multivariate statistical procedures most commonly used in social and behavioural research	20		x	x
2	Identify and select the appropriate multivariate techniques to address the research question through creative research design	20	x	x	x
3	Apply appropriate multivariate statistical techniques to their own research problem by using SPSS, AMOS, and other software packages	20		x	x
4	Discover and correctly interpret new knowledge from various multivariate techniques and report the results according to APA publication guidelines	20	x	x	x
5	Critically analyze and evaluate articles in the literaturereporting results from multivariate analyses	20	x	x	x

A1: Attitude
Develop an attitude of discovery/innovation/creativity, as demonstrated by students possessing a strong sense of curiosity, asking questions actively, challenging assumptions or engaging in inquiry together with teachers.

A2: Ability
Develop the ability/skill needed to discover/innovate/create, as demonstrated by students possessing critical thinking skills to assess ideas, acquiring research skills, synthesizing knowledge across disciplines or applying academic knowledge to real-life problems.

A3: Accomplishments
Demonstrate accomplishment of discovery/innovation/creativity through producing /constructing creative works/new artefacts, effective solutions to real-life problems or new processes.

Learning and Teaching Activities (LTAs)

	LTAs	Brief Description	CILO No.	Hours/week (if applicable)
1	Lecture	Students are required to attend lecture regularly and on time every week.	1, 2	

2	Homework assignments	Students are required to use SPSS to perform an assigned multivariate technique on a chosen dataset, and translating the output into coherent narratives, tables, and figures in APA format.	1, 2, 3, 4	
3	Final project	Students are require to conduct a final project to use knowledge learned from this course to discover their own knowledge	1, 2, 3, 4, 5	

Assessment Tasks / Activities (ATs)

	ATs	CILO No.	Weighting (%)	Remarks (e.g. Parameter for GenAI use)
1	Homework Assignments	1, 2, 3, 4	40	
2	Final project	1, 2, 3, 4, 5	60	

Continuous Assessment (%)

100

Examination (%)

0

Assessment Rubrics (AR)

Assessment Task

Assignments (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Quality of assignment

Excellent

(A+, A, A-) Students demonstrated excellent understanding of lecture content.

Good

(B+, B, B-) Students demonstrated good understanding of lecture content.

Fair

(C+, C, C-) Students demonstrated moderate understanding of lecture content.

Marginal

(D) Students demonstrated little understanding of lecture content.

Failure

(F) Students failed to demonstrate understanding of lecture content.

Assessment Task

Final project (for students admitted before Semester A 2022/23 and in Semester A 2024/25 & thereafter)

Criterion

Quality of final project

Excellent

(A+, A, A-) Students exhibited strong knowledge in data analysis and data interpretation. Final project has a good potential to be published in academic journals.

Good

(B+, B, B-) Students exhibited good knowledge in data analysis and data interpretation. Final project has a good potential to be accepted by international conferences.

Fair

(C+, C, C-) Students exhibited moderate knowledge in data analysis and data interpretation. Final project has some potential to be accepted by international conferences after revision.

Marginal

(D) Students exhibited basic knowledge in data analysis and data interpretation. Final project needs substantial revision to be accepted by international conferences

Failure

(F) Students failed to demonstrate knowledge in data analysis and data interpretation.

Assessment Task

Assignments (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Quality of assignment

Excellent

(A+, A, A-) Students demonstrated excellent understanding of lecture content.

Good

(B+, B) Students demonstrated good understanding of lecture content.

Marginal

(B-, C+, C) Students demonstrated marginal understanding of lecture content.

Failure

(F) Students failed to demonstrate understanding of lecture content.

Assessment Task

Final project (for students admitted from Semester A 2022/23 to Summer Term 2024)

Criterion

Quality of final project

Excellent

(A+, A, A-) Students exhibited strong knowledge in data analysis and data interpretation. Final project has a good potential to be published in academic journals.

Good

(B+, B) Students exhibited good knowledge in data analysis and data interpretation. Final project has a good potential to be accepted by international conferences.

Marginal

(B-, C+, C) Students exhibited marginal knowledge in data analysis and data interpretation. Final project has some potential to be accepted by international conferences after revision.

Failure

(F) Students failed to demonstrate knowledge in data analysis and data interpretation.

Part III Other Information

Keyword Syllabus

Multivariate analysis, ANCOVA, MANOVA, MANCOVA, factor analysis, multiple regression, discriminant analysis, logistic regression, path analysis, structural equations modelling

Reading List

Compulsory Readings

	Title
1	Hayes, A. F. (2009). Statistical methods for communication science. Routledge.
2	Cohen, J., Cohen, P., West, S., & Aiken, L. (2002). Applied Multiple Regression/Correlation for Behavioral Sciences. (3rd ed.). New York: Lawrence Erlbaum Associates.
3	Berry, W.D. (1993). Understanding Regression Assumptions. Sage.
4	Raudenbush, S. W. & Anthony S.B (2002). Hierarchical Linear Models: Applications and Data Analysis Methods. Sage.
5	Kline, R. B. (2005). Principles and Practice of Structural Equation Modeling. Guiford.
6	Enders, W. (2004). Applied Econometric Time Series. Wiley.

Additional Readings

	Title
1	Nil