Certificate Course in Data Analysis (CCDA)

Syllabus and Curriculum

2022

.

National Library of Sri Lanka

VISION

Being the national knowledge center provides all access to library and information services.

MISSION

Creating a knowledge society through the preservation of the intellectual heritage of the nation. Development of National library and information system.

Encouraging the utilization of information and communication technology for effective library service. Providing bibliographical services and assisting with book publication.

INTRODUCTION

The National Library of Sri Lanka was established on 27th April 1990. Ceylon National Library Services Board Act No.17 of 1970 provided the legal base for the National Library in its initial period. The National Library and Document Services Board's new amendment, Act No. 51, was introduced in 1998. The powers and responsibilities of the National Library were clearly spelled out for the first time, and this was a fulfillment of a long-felt need. Organizing and introducing this new institution to the country and the general public has become arduous.

The National Library is mainly a research and reference library, the main library and information center in Sri Lanka. It intends to provide library resources and information to all Sri Lankans through the National Library. The current library material stock of approximately 1,000,000 volumes will form the nucleus of the future national collection.

Currently, the National Library of Sri Lanka is conducting several money-oriented workshop series for the public on research methodology, book building, and training programs for librarians on book building, conservation and preservation, library automation, soft skills, and capacity development programs. Therefore, National Library has identified timely essential courses for the general public and the library staff of the county. Thus, it has recognized suitable resource persons for the relevant field.

JUSTIFICATION

The course appeals to those who need a better understanding of Statistical Methods for Social Science Research to deploy them in their studies or professional fields. This course thoroughly discusses the procedures of classifying data, methods of graphical representation of data, and various statistical measures. This entire course will provide knowledge in statistics to designing and conducting research.

AIM

- To provide a better understanding of data analysis in social research.

OBJECTIVES
The objectives of this Certificate Course are as follows:

- To give a comprehensive understanding of the usage of collecting data and organizing data.
- To provide an understanding of the basics of Statistics
- To provide an in-depth understanding of various statistical measures

PROGRAMME LEARNING OUTCOMES:

Upon successful completion of the CCRM, students will;

- Demonstrate sound theoretical knowledge and practical applications of data analysis
- Express high-quality data processing.
- Recognize analyze quantitative data analysis using SPSS.
- Practice qualitative data analysis using NVivo .

ENTRY QUALIFICATIONS:

1. Minimum qualification is sat for G.C.E. O/L

ADMISSION PROCESS

Applicants should produce a duly completed application from the Assistant Registrar, National Library of Sri Lanka.

Applicants are required to appear for an interview. The number of candidates enrolled in the programme will vary from time to time, up to 50, according to the availability of resources and other facilities.

FEES

The course fee includes registration fee, examination fee, course fee, library fee, and IT/ Computer literacy will be decided by the NLSL

For each re-sitting of examinations, an additional fee will be charged per course as per the Recommendation of the NLSL Director board.

Target Group:

This certificate course is designed for participants, undergraduates, graduates, and professionals interested in or obliged to gain knowledge to improve skills in research methodology.

Course Duration: 15 Weeks (90 Hours) Weekends

Medium of Instruction: English / Sinhala

Mode of Study: Online/Onsite

Course Fee: Rs. 30,000 per Participant

PROGRAMME COURSE UNITS

Subject Code	Subject Name	Credit value	Status
CCDA 1013	Introduction to Data Analysis	03	Compulsory
CCDA 1023	The Study of Documents	03	Compulsory
CCDA 1033	Quantitative Data Analysis using SPSS	03	Compulsory
CCDA 1043	Qualitative Data Analysis using NVivo	03	Compulsory
CCDA 1053	Data Interpretation and Report writing	03	Compulsory
Total Credits		**15**	

DETAILED SYLLABUS

Course Code	:	CCDA 1013		
Title	:	Introduction to Data Analysis		
Credit Value		**3**		
Status		Core		
Hourly Breakdown		**Theory**	**Practical**	**Independent Learning**
	:	20	00	130

Intended Learning Outcomes:
After completion of this subject unit, the student will be able to;

- Recognize basic stages of data analysis.
- Determine basic measurements of data reading.

Contents:

- Introduction to data analysis; purpose, essential characteristics, types of data analysis
- Data processing; Data preparation and data cleaning, Data types and measures of similarity,
- Basic measurements of data reading, relational measures, and their functions
- Nature of association measures; nominal and ordinal, the test of significance.
- Introduction to data analysis methods: descriptive (mean, median, mode, variance, standard deviation, and range), and inferential statistics (parametric test and non-parametric test), qualitative and quantitative data analysis
- Steps of data analysis; data preparation, describing the data, drawing the inference of data, interpretation of data

Methods of Teaching and Learning	:	Lectures, Readings, Interactive contacts, Discussions, Presentations, Demonstrations	
Assessment Strategy	:	Classroom assessment 40%	Written examination 60%
Recommended reading	:	• De Silva, A. (2001). *Samaja widhya paryeshana karma*.Author. • Sarantakos S.(2013*). Social Research*. Macmillan. • Subasinghe, W. (2016). *Samaja paryeshana karma*. Author.	

Course code	:	CCDA 1023
Title	:	The Study of Documents
Credit Value		**3**
Status		**Core**

Hourly Breakdown		Theory	Practical	Independent Learning
	:	20	00	130

Intended learning outcomes:
After completion of this subject unit, the student will be able to;

- Describe the essential documents on primary data collection.
- Determine the essential characteristics of the study of documents.

Contents:

- Introduction to the study of documents; types of documents; public documents, personal documents and physical evidences, sources of documentary data, document analysis process, credibility of documentary sources
- Meta-analysis
- Content analysis
- Text analysis
- Conversation analysis

Methods of Teaching and Learning	:	Lectures, Readings, Interactive contacts, Discussions, Presentations, Demonstrations
Assessment Strategy	:	Classroom Assessment 40%	Written Examination 60%
Recommended reading	:	• Creswell, J.W. & Creswell, J.D. (2018) *Research Design: Qualitative, Quantitative, and Mixed Methods Approaches*. (5ᵗʰ Ed.). SAGE Publications. • Flick, U.(2015). *Introducing Research Methodology: A Beginner's Guide to Doing a Research Project*. (2ⁿᵈ Ed.). SAGE Publications.

Course code	:	CCDA 1033		
Title	:	Quantitative Data Analysis using SPSS		
Credit Value		**3**		
Status		**Core**		
Hourly Breakdown		**Theory**	**Practical**	**Independent Learning**
	:	20	00	130

Intended Learning Outcomes:
After completion of this subject unit, the student will be able to;
- To analyze several statistical procedures in SPSS
- To interpret the output of several different statistical tests
- To write the results of statistical analyses using the APA format
- To design the data analysis plan for surveys and evaluation studies using SPSS
- To interpret the results from the data analysis using SPSS

Contents:

- Introduction to SPSS (Data Management and Data Handling)
- Descriptive Statistics, Normality Tests, Crosstabs
- Hypothesis Testing (Parametric and Non-Parametric Tests)
- Correlation, Regression – Simple/Multiple/Logistic

Methods of Teaching and Learning	:	Lectures, Readings, Interactive contacts, Discussions, Presentations, Demonstrations	
Assessment Strategy	:	Continuous Assessment 50%	Individual Assessment 50%
Recommended reading	:	• Flick, U.(2018). *The sage handbook of qualitative data collection*. SAGE Publications Ltd. • Gómez, H.G.(2021). *The technique of data collection in qualitative research: research data collection.* Our Knowledge Publishing.	

Course Code	:	CCDA 1043
Title	:	Qualitative Data Analysis using NVivo
Credit Value		**3**
Status		**Core**

Hourly Breakdown		**Theory**	**Practical**	**Independent Learning**
	:	20	00	130

Intended learning outcomes:
After completion of this subject unit, the student will be able to;

- Identify the basics of Nvivo and set up a project
- Discuss qualitative data analysis procedure in NVivo
- Identify how to interpret the output/results of qualitative data analysis using NVivo
- Sharing a piece of practical knowledge by using Nvivo
- To interpret the results from the data analysis using SPSS

Contents:
After completion of this subject unit, the student will be able to;
- Introduction to Qualitative Research
- Introducing Nvivo and setting up a project
- Importing and Coding documents
- Exploring the data
- Analysis & theme development
- Classifying & categorizing data
- Conducting a literature review using Nvivo
- Practical session with data set

Methods of Teaching and Learning	:	Lectures, Readings, Interactive contacts, Discussions, Presentations, Demonstrations
Assessment Strategy	:	Continuous Assessment 50%	Individual Assessment 50%
Recommended Reading	:	• Niriella, N.C. (2018). *Writing research proposals: examples with urban questions*. Sarasavi publishers. • Subasinghe, W. (2016). *Samaja paryeshana karma*. Author. • Uyangoda, J. (2010). *Writing research proposals in the social sciences and humanities: a theoretical and practical*

guide. Social Scientists Association.
- Miles, M.B. Huberman, A.M and Saldan, J. (2020). *Qualitative data analysis: a methods sourcebook*. SAGA publication.
- Rose, D.(1993). *Introducing data analysis for social scientists*. Open University Press.
- Siddisena, K,A.P.(2021).*Datta vishleshana praveshaya*. Author.

Course code	:	CCDA 1053		
Title	:	Data Interpretation and Report Writing		
Credit Value		**3**		
Status		Core		
Hourly Breakdown		**Theory**	**Practical**	**Independent Learning**
	:	20	00	80

Intended learning outcomes

After completion of this subject unit, the student will be able to;

- Write with clarity and precision
- Develop and support your ideas persuasively
- Organize ideas logically and with clear transitions
- Master the basics of sentence structure, formatting, and punctuation

Contents:

- Academic writing vs. non-academic writing: Difference between academic writing and non-academic writing, Word usage in academic writing, and Things to avoid in academic writing.
- Grammar rules in academic writing: Subject-verb agreement, Articles, prepositions, and conjunctions, Active voice, and passive voice
- Academic writing in sentence level: Constructing complex sentences, Use of punctuation in sentence construction, Common errors in sentence structures, Summarizing, Paraphrasing, How to Avoid Plagiarism
- The report on qualitative research
- The report on qualitative research
- Structure and content of the research report

Methods of Teaching	:	Lectures, Readings, Interactive contacts, Discussions, Presentations,

and Learning		Demonstrations	
Assessment Strategy	:	Project Report: Qualitative 50%	Project Report: Quantitative 50%
Recommended Reading	:	- Bell, J. (2004). *Doing your research project: a guide for first-time researchers in education and social science*. Viva publications. - O'Leary, Z. (2010). *The essential guide to doing your research project*. SAGE Publications. - Walliman, N. (2005). *Your research project*. Sage Publications.	