



Library Data Literacy Workshops

The library provides teaching in data management, creation, visualization, and analysis in support of all aspects of the research, teaching, and learning workflows. The sessions bring together expertise from across the library and guide students at all levels to learn to process numeric data analysis with Stata, build a qualitative database and conduct textual analysis with NVivo, realise data visualization tool with Tableau, learn programming skills (Python, the Knowledge Graph, and Neo4j) for a collaborative programming project. The teaching-related information can also be found on our website [Library Data Literacy Workshops Teaching](#).

The library will deliver the sessions for all students regularly in each semester. Please follow up on the messages on the student Portal and the library WeChat for learning opportunities.

For the list and descriptions of library data literacy workshops, please check the following pages.

1. **Introducing Numeric Data Analysis Part1 (Stata)**

The aim of this session is to develop basic knowledge and understanding of numeric research data analysis using the practical statistical analysis software Stata for analyzing and managing data. The course will start by introducing the advantage of using Stata and exploring Stata's statistical analysis capabilities, which include: dealing with variables, working with commands, introducing the coding system, and how to save results from Stata.

2. **Introducing Numeric Data Analysis Part2 (Stata)**

In this Stata course, you will learn how to apply Stata, a practical statistical analysis software for analyzing and managing data. The course will continue to discover Stata's different command functions and how to apply them to research and learning. In addition, explore Stata's graphic functions, such as pie charts, box plots, scatterplots, etc.

3. **Introduction to NVivo**

The aim of this session is to develop basic practical knowledge and understanding of qualitative data in scholarship for research databases using Nvivo. Discover simple examples of data in the scholarship of others, considering the contributions to disciplinary knowledge; use software, such as Nvivo, to understand underlying concepts in data analysis and visualisation; and, synthesise ideas from multiple sources to organize research results in meaningful ways.

4. **Building a Qualitative Database with NVivo**

The aim of this session is to develop practical knowledge and understanding of qualitative data in scholarship for research databases using Nvivo. Apply new knowledge and understanding related to the practical application of data analysis to research publications; understand how to visualise data, including coding to improve research design; and, apply knowledge to the critical evaluation of data and visualization in scholarship and publication.

5. **Textual Analysis with NVivo**

The aim of this session is to develop practical knowledge and understanding of qualitative textual analysis in scholarship for research publications. Apply new knowledge and understanding related to the practical application of textual analysis to research publications; understand how to visualise textual data, supporting a range of research methods, such as questionnaires and interviews; and, apply knowledge in specific research projects and communicate new discoveries through data visualisation in scholarship and publication.

6. **Introduction to Tableau**

This session will help students understand the business intelligence needs of real world and the differences between the practical and research purposes of data visualisation. The leading data visualisation software will be showcased for managerial decision making and simplification of data analysis outputs.

7. **Introduction to Python Part1**

This session aims to develop student programming skills using Python. Students can understand and apply new knowledge in the basic operations of Python. In Python Part 1, students will learn basic syntax about Python, as well as Scrapy. By the end of the session, the participants should be able to develop new research methods by using a programming language (Python), and understand the basic logic of Scrapy. It can also create new data visualisations that can be used in the postgraduate research thesis or external publications, and collaborate with other researchers using programming (Python) for data analysis and visualisation for research projects and publication.

8. **Introduction to Python Part2**

This session aims to develop students' advanced programming skills using Python. Students can apply new knowledge in machine learning and typical algorithm. In Python Part 2, students will learn the basic information about machine learning and typical algorithm such as decision tree. By the end of the session, the participants should be able to develop new research methods by using Python. It can also explore the basic practice of Scrapy and algorithms.

9. **Introduction to Knowledge Graphs**

This session aims to introduce the knowledge graph to students as a research tool to develop practical knowledge and understanding. In the teaching session, students can understand the basic concepts in knowledge graphs, such as word embedding, distributed representation, and knowledge extraction. By the end of the session, the participants should be able to develop new knowledge in techniques, including phrase mining, data modeling, and information extraction, and use Python to manage and analyse data to the new knowledge graphs.

10. **Introduction to Neo4j Programming**

The session aims to develop student programming skills for data visualisation using the Neo4j programming language. It aims to understand and apply new knowledge in the basic operations of the Neo4j, as well as synthesising research data in an efficient way for analysis and visualisation

using Neo4j. By the end of the session, the participants should be able to develop new research methods in data visualisation using a programming language (Neo4j), create new data visualisations that can be used in the postgraduate research thesis or external publications, such as journal articles and book chapters.