Title (Units): **COMP1025 Coding for Humanists (3,2,1)**

Course Aims: This course aims to introduce students from diverse humanities disciplines to the fundamentals of programming, emphasizing its application in research, analysis, and creative expression. Students will learn basic programming concepts, with a particular focus on visual programming, and explore how these skills can be leveraged to enhance their scholarly work and artistic endeavors. Additionally, the course emphasizes text processing, equipping students with foundational skills to manipulate, analyze, and visualize textual data using visual tools, thereby fostering critical thinking and technical skills applicable in their respective fields.

Prerequisite: Nil

Course Intended Learning Outcomes (CILOs):
Upon successful completion of this course, students should be able to:

No.	Course Intended Learning Outcomes (CILOs)
	Knowledge
1	Describe fundamental programming concepts and their relevance to humanities research.
2	Apply basic programming skills to analyze and manipulate texts and data.
3	Create visual representations of data findings for meaningful insights.
4	Evaluate ethical implications of programming practices in the context of the humanities.

Calendar Description: This course aims to introduce students from diverse humanities disciplines to the fundamentals of programming, emphasizing its application in research, analysis, and creative expression. Students will learn basic programming concepts, with a particular focus on visual programming, and explore how these skills can be leveraged to enhance their scholarly work and artistic endeavors. Additionally, the course emphasizes text processing, equipping students with foundational skills to manipulate, analyze, and visualize textual data using visual tools, thereby fostering critical thinking and technical skills applicable in their respective fields.

Teaching and Learning Activities (TLAs):

CILOs	Type of TLA
1	Lectures present students the concepts and theories on programming.
2, 3	Workshops will facilitate students apply programming and visualization skills to humanity context.
2, 3	Assignments and project will help students to practice programming skills to analyze and manipulate texts and data.
4	Class discussion and case studies will facilitate students evaluate programming practices.

Assessment:

No.	Assessment Methods	Weighting	CILOs to be addressed	Description of Assessment Tasks
1	Workshops	35%	2, 3	Workshop assignments will test students programming progress.
2	Class Discussion	10%	1, 4	Class discussion will test students' ability to evaluate programming practices.
3	Assignments	20%	1, 2, 3	Assignments will test how well students master programming concepts and theories.
4	Project	35%	1, 2, 3	Project will test students' ability to integrate programming and visualization skills to humanity context.

Assessment Rubrics:

	Exemplary	**Proficient**	**Satisfactory**	**Needs Improvement**	**Unsatisfactory**
Workshops	Demonstrates a thorough ability to apply programming skills to analyze and manipulate texts and data. The student effectively uses visual programming tools to create insightful data visualizations that are relevant to the humanities context.	Shows a solid application of programming skills with minor errors. Visualizations are mostly effective and relevant.	Adequately applies basic programming skills with some errors. Visualizations are basic but convey some meaningful insights.	Struggles to apply programming skills effectively. Visualizations lack clarity and relevance.	Fails to apply programming skills. Visualizations, if present, are unclear or irrelevant.
Class Discussion	Actively engages in discussions, offering insightful evaluations of programming practices and their ethical implications in the humanities.	Engages in discussions with relevant contributions and some evaluation of ethical implications.	Participates in discussions with basic contributions. Limited evaluation of ethical implications.	Rarely participates or contributes minimally to discussions. Little to no evaluation of ethical implications.	Does not participate or contribute to discussions.
Assignments	Demonstrates a comprehensive understanding of programming concepts and theories. Applies skills effectively to analyze and manipulate data.	Shows a good understanding of programming concepts with minor errors in application.	Understands basic concepts but with several errors in application.	Struggles to understand concepts or apply skills effectively.	Fails to demonstrate understanding or ability to apply programming skills.
Project	Integrates programming and visualization skills seamlessly into a humanities context. The project is well-researched,	Effectively integrates skills with minor issues. The project is well-executed and relevant.	Integrates skills with several issues. The project is basic but meets minimum requirements.	Struggles to integrate skills effectively. The project lacks depth and relevance.	Fails to integrate skills. The project is poorly executed or irrelevant.

	insightful, and demonstrates creativity and critical thinking.				

Course Content and CILOs Mapping:

Content		CILO No.
I	Overview of Digital Humanities	1
II	Introduction to Programming Concepts and Visual Programming	2
III	Text Processing and Analysis	2,3
IV	Data Visualization of Textual Data	2,3
V	Ethical Considerations in Digital Humanities	4

References:

- Eve Martin Paul (2022). The Digital Humanities and Literary Studies. Oxford University Press
- Johanna Drucker (2021). The Digital Humanities Coursebook: An Introduction to Digital Methods for Research and Scholarship. Routledge
- Raymond S. T. Lee (2024). Natural Language Processing: A Textbook with Python Implementation. Springer
- Martin Weisser (2024). Python Programming for Linguistics and Digital Humanities: Applications for Text-Focused Fields. Wiley
- Mark Minevich (2023). Our Planet Powered by AI: How We Use Artificial Intelligence to Create a Sustainable Future for Humanity. Wiley0
- Orange Documentation: https://orangedatamining.com/docs/
- Harvard Digital Humanities Project: https://projects.iq.harvard.edu/cbdb/home
- HKBU Digital Projects: https://digital.lib.hkbu.edu.hk/digital/DSS.php

Course Content:

Topic

I. Overview of Digital Humanities
   A. Historical context and evolution of digital humanities
   B. Case studies of successful text analysis projects in humanities
   C. Tools and frameworks commonly used in digital humanities research

II. Introduction to Programming Concepts and Visual Programming
   A. Overview of visual programming and its benefits
   B. Key features of visual programming and its interface (e.g. Orange)
   C. Creating and managing flows

III. Text Processing and Analysis
   A. Common text processing tasks
   B. Tools for text processing and their applications
   C. Topic modeling
   D. Sentiment analysis

IV. Data Visualization of Textual Data
   A. Overview of visualization in understanding text data
   B. Types of visualizations suitable for textual analysis (e.g. word clouds)

C. Best practices for creating clear and informative visualizations

V. Ethical Considerations in Digital Humanities
   A. Understanding data privacy and ethical issues in digital research
   B. The implications of algorithmic bias and fairness
   C. Guidelines for responsible data management and usage