Introduction to Digital Humanities & AI

HUMA 1678

3 Credits

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Office Hours: After appointment, Wednesday p.m., 3351 Academic Building.

Course Description

This course introduces students to computational methods in the humanities, focusing on network analysis, spatial analysis, and artificial intelligence (AI). Through case studies and practical workshops, they will explore key debates surrounding digital humanities and computational modelling, and critically assess the role of AI in research. Students will (1) discuss relevant theory, concepts, and case studies, and (2) gain hands-on experience with software and coding. The course covers foundational concepts such as network metrics, geospatial data, and machine learning while maintaining a strong emphasis on interpretation and ethical considerations. In small interdisciplinary teams, students will complete their digital portfolio and work towards an end-term project. By the end of the course, students will be able to conduct independent digital humanities projects, applying computational techniques to historical and cultural research questions. Prior experience in coding is not required.

Intended Learning Outcomes (ILOs)

1. Explain the role of computation in the humanities.
2. Evaluate ethical considerations in computational humanities, including bias and data limitations.
3. Critically assess AI applications in research.
4. Apply data manipulation and computational analysis skills to solve specific problems in the humanities.
5. Apply computational techniques to historical and cultural datasets.
6. Design and execute a digital humanities project.

Assessment and Grading

This course will be assessed using criterion-referencing and grades will not be assigned using a curve. Detailed rubrics for each assignment will be provided, outlining the criteria used for evaluation.

Assessments:

Assessment Task	Contribution to Overall Course grade (%)	Due date*
Learning portfolio	45%	Cumulative
Presentation	10%	Final week (starting May 4), in-session
Project report	45%	End of term (May 29)

* Assessment marks for individual assessed tasks will be released within two weeks of the due date.

Mapping of Course ILOs to Assessment Tasks

Assessed Task	Mapped ILOs	Explanation
Learning portfolio	ILO1, ILO2, ILO3, ILO4, ILO5	The accumulated learning portfolio students' ability to explain the role of computation in the humanities (ILO 1), evaluate ethical considerations in computational humanities, including bias and data limitations (ILO 2), critically assess AI applications in research (ILO 3), apply data manipulation and computational analysis skills to solve specific problems in the humanities (ILO 4), and apply computational techniques to historical and cultural datasets (ILO 5), demonstrating originality in problem-solving, data interpretation, and tool selection.
Presentation		The presentation and project report assess students' ability to design and execute a digital humanities project (ILO 6), demonstrating originality in problem-solving, data interpretation, and tool selection, as well as their ability to effectively work in interdisciplinary teams.
Project report	ILO6	

Grading Rubrics

Detailed rubrics for each assignment will be provided. These rubrics clearly outline the criteria used for evaluation. Students can refer to these rubrics to understand how their work will be assessed.

Final Grade Descriptors:

Grades	Short Description	Elaboration on subject grading description
A	Excellent Performance	Demonstrates a comprehensive grasp of subject matter, expertise in problem-solving, and significant creativity in thinking. Exhibits a high capacity for scholarship and collaboration, going beyond core requirements to achieve learning goals.
B	Good Performance	Shows good knowledge and understanding of the main subject matter, competence in problem-solving, and the ability to analyse and evaluate issues. Displays high motivation to learn and the ability to work effectively with others.
C	Satisfactory Performance	Possesses adequate knowledge of core subject matter, competence in dealing with familiar problems, and some capacity for analysis and critical thinking. Shows persistence and effort to achieve broadly defined learning goals.
D	Marginal Pass	Has threshold knowledge of core subject matter, potential to achieve key professional skills, and the ability to make basic judgments. Benefits from the course and has the potential to develop in the discipline.
F	Fail	Demonstrates insufficient understanding of the subject matter and lacks the necessary problem-solving skills. Shows limited ability to think critically or analytically and exhibits minimal effort towards achieving learning goals. Does not meet the threshold requirements for professional practice or development in the discipline.

Course AI Policy

The use of Generative AI is permitted for brainstorming, drafting code, and editing language. All other uses require proper acknowledgement and may be excluded from student assessment.

Communication and Feedback

Assessment marks for individual assessed tasks will be communicated via Canvas within two weeks of submission. Feedback on assignments will include specific details, e.g., strengths and areas for improvement. Students who have further questions about the feedback including marks should consult the instructor within five working days after the feedback is received.

Resubmission Policy

No resubmissions or reassessments are permitted unless explicitly announced by the instructor in writing.

Required Texts and Materials

- Chapters from Taylor **Arnold** and Lauren **Tilton**. *Humanities Data in R. Exploring Networks, Geospatial Data, Images, And Text*. Cham: Springer, 2015: 59–75, 77–85, 117–141, 169–199.
- Chapters from David J. **Bodenhamer**, John **Corrigan**, and Trevor M. **Harris**, eds. *The Spatial Humanities: GIS and the Future of Humanities Scholarship.* Bloomington & Indianapolis: Indiana University Press, 2010: 14–30, 58–75.
- Jorge Luis **Borges**. "Library of Babel" and "Pierre Menard." In *Labyrinths: Selected Stories & Other Writings.* New York: New Directions [1962] 1964: 51–58, 36–44.
- Jing **Chen** and Lik Hang **Tsui**. "Debating and Developing Digital Humanities in China. New or Old?," in Domenico Fiormente, Sukanta Chaudhuri, and Paolo Ricaurte, eds. *Global Debates in the Digital Humanities.* Minneapolis: University of Minnesota Press, 2022: 71–86.
- Ted **Chiang**. "The Truth of Fact, the Truth of Feeling," in *Exhalation: Stories*. New York: Alfred. A. Knopf, 2019: 185–230.
- Julia **Damerow**, Abraham **Gibson**, and Manfred D. **Laubichler**. "Of Coding and Quality: A Tale About Computational Humanities," in Lauren Tilton, David Momno, and Jessica Marie Johnson, eds. *Computational Humanities*. Minneapolis: University of Minnesota Press, 2024: 215–232.
- Chapters from Ian N. **Gregory** and Paul S. **Ell**. *Historical GIS: Technologies, Methodologies and Scholarship.* Cambridge, New York, Melbourne: Cambridge University Press, 2007: 1–19, 89–118.
- Stanislaw **Lem**. "The First Sally (A), or Trurl's Electronic Bard," in *The Cyberiad. Fables for the Cybernetic Age*. London: Penguin [1974] 2014: 43–57.
- Franco **Moretti**. "Network Theory, Plot Analysis." Stanford Literary Lab Pamphlets 2, 2011.
- Chapter from M. E. J. **Newman**. *Networks. An Introduction*. Oxford: Oxford University Press, 2010: 36–62.
- Bernhard **Rieder** and Theo **Röhle**. "Digital Methods: Five Challenges," in David M. Berry, ed. *Understanding Digital Humanities.* Cham: Springer, 2012: 67–84.

Academic Integrity

Students are expected to adhere to the university's academic integrity policy. Students are expected to uphold HKUST's Academic Honor Code and to maintain the highest standards of academic integrity. The University has zero tolerance of academic misconduct. Please refer to [Academic Integrity | HKUST – Academic Registry](#) for the University's definition of plagiarism and ways to avoid cheating and plagiarism.

Additional Resources

HKUST Library has put all required readings on Course Reserve.