The Hong Kong University of Science and Technology

UG Course Syllabus

[Course Title] Data Visualization

[Course Code] COMP4462

[No. of Credits] 3

[Any pre-/co-requisites] COMP 2011

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Course Description

[Briefly describe the course content, key topics or themes, objectives, methods of instruction, e.g., lectures, discussions, projects].

This course will introduce visualization techniques for data from everyday life, social media, business, scientific computing, medical imaging, etc. The topics include human visual system and perception, visual design principles, open- source visualization tools and systems, visualization techniques for CT/MRI data, computational fluid dynamics, graphs and networks, time-series data, text and documents, Twitter data, and spatio-temporal data. The labs and the course project will give students hands-on experience to turn their data into beautiful visualizations.

Assessments:

[List specific assessed tasks, exams, quizzes, their weightage]

Assessment Task	Contribution to Overall Course grade (%)
Mid-Term	40%
In-course exercises	10%
Lab exercises	10%
Competition	10%
Group project	30%

Required Texts and Materials

[List required textbooks, readings, and any other materials]

[Optional] Additional Resources

[List any additional resources, such as online platforms, library resources, etc.]

Reference books

- Visualization Analysis and Design by Tamara Munzner: [Visualization Analysis and Design (Links to an external site.)](#)
- Interactive Data Visualization: Foundations, Techniques, and Applications by Matthew Ward, Georges Grinstein, and Daniel Keim: [Interactive Data Visualization (Links to an external site.)](#)
- The visualization handbook
- Information visualization: perception for design
- The visual display of quantitative information
- Envisioning information
- Visual explanations: images and qauntities, evidence and narrative