COURSE CONTENT

Course Code	DD0003
Course Title	Information Visualization
Pre-requisites	Nil
No of AUs	3
Contact Hours	39 hours studio contact

Course Aims

This introductory level course will provide an overview of the practice of information visualization. You will explore fundamental visual design techniques to interpret, organize and present visual interpretations for different forms of data. The learnings achieved in this course will expand your understanding on how complex information can be communicated meaningfully and clearly through visualization to inspire greater empathy and understanding from an audience.

Intended Learning Outcomes (ILO)

By the end of this course, you should be able to:

1. Demonstrate understanding about the practice of information visualization through group assignments, presentations, discussions, and activities.
2. Analyse specific information and extract key data elements to build visual models.
3. Conceptualize appropriate visualization methods for communicating large amounts of information in clear and meaningful ways.
4. Present development and final ideas that clearly and effectively communicates the intent of an information visualization.
5. Participate in class discussion, collaborate with your peers and constructively critique assignments in this course.

Course Content

This course provides an overview of the key concepts, and methods of information visualization. You will explore different methods of communicating complex information creatively.

Overview of Information Visualization
You will learn how visualization of information developed, how it has been used and expanded, and why it continues to be one of an essential field of practice across multiple disciplines.

Visual Dictionary
You will learn how to develop a visual toolkit through studying different forms of information and establishing visual representations using colour, shape and form.

Visual Models
Further developing your toolkit, you will learn various visual model representations in shaping information and organizing large data sets.

Curating Data
You will learn to extract, analyse, interpret and present information in curated and meaningful ways.

Applications of Information Visualization

You will be introduced to various examples of how information visualization is used in various media and spaces, and the various designers and artists that created them.

Class Assignments
Your will produce two group assignments in this class. Classes will include lectures, group discussions, presentations and activities that may be included in the assessment.

Assessment (includes both continuous and summative assessment)

Component	ILO Tested	Programme LO	Weighting	Team/ Individual
Continuous Assessment Assignment 1: Visualization Methods - Visual Dictionary 10% - Visual Models 10%	1,2,3,4,5	--	20	Individual
- Team Contribution	1,2,3,4,5	--	20	*Team
Final Project Information Visualization of a Narrative - Application of appropriate methods of visual models for information visualization	1,2,3,4,5	--	20	Individual
- Team Contribution	1,2,3,4,5	--	20	*Team
Continuous Assessment: Participation	5	--	20	Individual
Total			100%	

*In principle, you will receive the same marks as your team. However, your individual score may vary based on feedback about your contributions.

Recommended Reading and References

- Rendgen, Sandra. *History of information Graphics*. Taschen, 2019
- Lupi, Giorgia. Posavec, Stefanie. *Dear Data*. Penguin UK, 2016
- Tufte, Edward R. *The Visual Display of Quantitative Information*. Graphics Press LLC, 2006.
- McCandless David. *Information Is Beautiful*. Harper Collins Publishers, 2012
- Kirk, Andy. *Data Visualisation: A Handbook for Data Driven Design*. SAGE Publishing, 2019.

Course Policies and Student Responsibilities

1) General
You are expected to complete all assigned readings, activities, assignments, attend all classes punctually and complete all scheduled assignments by due dates. You are expected to take responsibility to follow up with assignments and course related announcements. You are expected to participate in all project

critiques, class discussions and activities.

(2) Punctuality
You are expected to be punctual for all classes. If you are more than 30 minutes late, you will be deemed as absent and will not be able to sign on the attendance register.

(3) Absenteeism
In-class activities make up a significant portion of your course grade. Absence from class without a valid reason will affect your participation grade. Valid reasons include falling sick supported by a medical certificate and participation in NTU's approved activities supported by an excuse letter from the relevant bodies. There will be no make-up opportunities for in-class activities.

Academic Integrity
Good academic work depends on honesty and ethical behaviour. The quality of your work as a student relies on adhering to the principles of academic integrity and to the NTU Honour Code, a set of values shared by the whole university community. Truth, Trust and Justice are at the core of NTU's shared values.

As a student, it is important that you recognize your responsibilities in understanding and applying the principles of academic integrity in all the work you do at NTU. Not knowing what is involved in maintaining academic integrity does not excuse academic dishonesty. You need to actively equip yourself with strategies to avoid all forms of academic dishonesty, including plagiarism, academic fraud, collusion and cheating. If you are uncertain of the definitions of any of these terms, you should go to the academic integrity website for more information. Consult your instructor(s) if you need any clarification about the requirements of academic integrity in the course.

Planned Weekly Schedule*
***Subject to adjustment by instructor according to the teaching situation, students' progress, public holidays and unforeseeable circumstances. A revised schedule will be issued to students at the start of the semester.

Week	Topic	Course LO	Readings/ Activities
1	**Introduction to Information Visualization** Introduction to the course. Brief overview of information visualization.	1, 2, 3	**Introductory Lecture** Overview of course. **Assign Assignment 1**
2-3	**Visual Dictionary** Developing a visual toolkit through studying different forms of information and establishing visual representations using colour, shape and form.	1, 2, 3, 4, 5	**Lecture** : Visual Dictionary **Assignment 1:** Group presentation, critique and feedback of ideas

4-5	**Visual Models** Further developing your toolkit, you will learn various visual model representations in shaping information and organizing large data sets.	1, 2, 3, 5	**Lecture** : Visual Models **Assignment 1: Group Review** Group critiques on assignment
6	**Curating Data**	1, 2, 3, 5	**Lecture**: Curating Data **Assignment 1: Group Review** Group critiques on assignment
7	**Assignment 1 Presentation & Submission**	1, 2, 3, 4, 5	**Assignment 1: Group presentation and submission** **Assign Final Project**
8-9	**Applications of Information Visualization**	1, 2, 3, 4, 5	**Lecture** : Application of Information Visualization **Final Project: Group Presentation**
10-12	**Studio Work** Work in class. Discussions on data curation, visual models and appropriate visual disctionary.	1, 2, 3, 4, 5	**Final Project:** Group critiques on assignment
13	**Final Project Submission & Presentation**	1, 2, 3, 4, 5	**Final Project:** Presentation & Submission