

COURSE CONTENT

Course Code	DV3009
Course Title	Information Visualization
Pre-requisites	NIL
No of AUs	3
Contact Hours	39 hours studio contact

Course Aims

In this advanced course you will explore the visual interpretation and representation of information. You will apply your existing visual design skills to extract data, create data, understand and organise data, and present visual interpretation of it meanings and implication for your audience. The learnings achieved in this course will contribute to future design challenges where complexity needs to be communicated clearly and simply.

Intended Learning Outcomes (ILO)

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

1. Analyze complex information and extract key data elements for visual communication.
2. Conceptualize appropriate forms for communicating large amounts of information.
3. Generate design iterations, digital previews and physical prototypes, for each information visualisation project.
4. Present development and final work that clearly and effectively communicates the intent of your information visualisation.
5. Engage in constructive criticism and discussion of data representation methods with your peers.

Course Content

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

Brief History of Information Visualization

You will learn how visualization of information developed, how it has been used, and manipulated, and why it continues to be one of the essential areas of graphic design.

Visual Hierarchies

Using colour, typography, and form, you will create visual hierarchies in your work. You will demonstrate how large amounts of information can be organized.

Curating Data

You are curators of the data you have collected. You will learn to analyse, interpret and present data relevant in your work.

Applications of Information Visualization

You will be shown various examples of how information visualization is used in various media and spaces.

Information Visualization as Art

You will explore information visualization as an art form. You will be exposed to different artists and designers who work mainly with information visualization.

Class Assignments

You will produce three creative projects in this class. Classes will include lectures, demonstrations, 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: Project 1: Visualizing Complex Information (from given source)	1,2,3,4	--	25	Individual
Continuous Assessment: Project 2: Visualizing Data Extraction (from chosen film, song, or novel)	1,2,3,4		25	Individual
Final Project Gathering & Curation of Visual Data	1,2,3,4		30	Individual
Continuous Assessment: Participation	5	--	20	Individual
Total			100%	

Reading and References

1. Neurath, Otto, et al. *From Hieroglyphics to Isotype: a Visual Autobiography*. Hyphen, 2010.
2. Rendgen, Sandra, et al. *Information Graphics*. Taschen GmbH, 2016.
3. Tufte, Edward R. *The Visual Display of Quantitative Information*. Graphics Press LLC, 2006.
4. Tufte, Edward R. *Envisioning Information*. Graphics Press, 2017.

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 history of information visualization.	1,2	Introductory Lecture Overview of course. Assign Project 1

2	Visual Hierarchies Learn how to organize large amount of information in a clear and effective manner.	1,2,3,4,5	Lecture: Visual Hierarchies Project 1: Presentation Critique and feedback of ideas.
3	Curating Data Learn how to analyze information and extract relevant data. Discuss methods of collecting raw data for personal work.	1,2,3,4,5	Lecture: Curating Data Project 1: Individual Review One on one, or small group critique and feedback. Assign Project 2
4	Applications of Information Visualization Examples of visualizing information in different media and spaces.	1,2,3,4,5	Lecture: Applications of Information Visualization Project 1: Individual Review One on one, or small group critique and feedback. Project 2: Presentation Critique and feedback of ideas.
5	Project 1 Presentation	1,2,3,4,5	Project 1: Final Presentation Critique and feedback. You can continue to work on project after presentation. Project 2: Individual Review One on one critique and feedback of initial sketches and concepts.
6	Information Visualization as Art Exploring information visualization as an art form.	1,2,3,4,5	Lecture: Information Visualization as Art Project 2: Individual Review One on one, or small group critique and feedback. Assign Project 3
7	Studio Work Refining data expression for Project	1,2,3,4,5	Project 2: Individual Review One on one, or small group critique

	2. Discussion of topics for data gathering for Project 3.		and feedback. Project 3: Individual Review Present initial findings, research, and collected data.
8	Project 2 Presentation	1,2,3,4,5	Project 2: Final Presentation Critique and feedback. You can continue to work on project after presentation. Project 3: Individual Review One on one critique and feedback of initial sketches and concepts.
9	Studio Work Work in class. Discussions on data curation.	1,2,3,4,5	Project 3: Presentation Critique and feedback of sketches and concepts.
10	Studio Work Work in class. Discussion on media explorations for Project 3. Discussion on possible final forms of Project 3.	1,2,3,4,5	Project 3: Individual Review One on one, or small group critique and feedback.
11	Studio Work Work in class. Finalizing edits for Project 3.	1,2,3,4,5	Project 3: Individual Review One on one, or small group critique and feedback.
12	Project 3 Presentation	1,2,3,4,5	Project 3: Final Presentation Critique and feedback.
13	Submission	1,2,3,4,5	Submission Submission of all work done in the semester.