

COURSE CONTENT

Course Code	DN1011
Course Title	Form & Visualization
Pre-requisites	NIL
No of AUs	3
Contact Hours	39 (1h Lecture, 2h Tutorial)

Course Aims

This course forms a practical exploration, at an introductory level, of manual visualization and model-making skills necessary for the formulation, visualization and presentation of objects and spaces.

As students, you do a series of assignments across a range of domain areas, to gain an understanding and to have an initial exposure to the form and visualization skill sets used by designers.

Intended Learning Outcomes (ILO)

By the end of this course, you (as a student) should be able to:

1. Produce work that demonstrates the application of form-making and visualization principles in an integrated and cohesive project.
2. Visualize objects and spaces using various drawing techniques as evidenced in your class work and assignments.
3. Make objects and spaces using various model-making techniques as evidenced in your class work and assignments.
4. Employ a visual lexicon and cognitive framework and understanding for the making and visualization of objects and spaces.
5. Engage on the visualization and form making of a design project through your class participation, execution of projects and critique presentations.

Course Content

Through a series of exercises and assignments, students are introduced to the basic skills and vocabulary of form-making and visualization. Students will also have the opportunity to work on a project that applies both form making and visualization principles and techniques. The topics covered are:

Visualization of objects and spaces

- Drawing mediums, scale, graphic/ technical representation of objects and spaces, Orthographic projection, Isometric and Axonometric projection, Linear perspective (1 point, 2 point), ideative/ ideation sketching, illustrative sketching, tone, texture, and shading.

Form making of objects and spaces

- Model-making materials, scale, mock-up models, concept models, visual models, working from orthographic drawings, prismatic and compound form making techniques, joining and construction methods.

Conceptual Development

- Anthropometry, figure-ground relationship, perception of form.

Assessment (includes both continuous and summative assessment)

Component	Course LO Tested	Related Programme LO or Graduate Attributes	Weighting	Team/Individual
1. Continuous Assessment 1 (CA1): Assignments	1,2,3,4,5	Competence, Creativity, Communication and Character	60	Individual / Team
2. Continuous Assessment 2 (CA2): Participation	1,5	Competence, Creativity, Communication and Character	20	Individual
3. Final Project	1,2,3,4,5	Competence, Creativity, Communication and Character	20	Individual
Total			100%	

Reading and References**Reading & Reference Texts**

- a. Ching, F. D, & Juroszek, S. P., **Design drawing**, John Wiley & Sons, 2011
- b. Hallgrimsson, B, **Prototyping and modelmaking for product design**, Laurence King Publishing, 2012
- c. Henry, K, **Drawing for product designers**, Laurence King, 2014
- d. Sutherland, M, **Modelmaking: a basic guide**, W.W. Norton, 1999

Recommended Texts

- e. Baskinger, M, & Bardel, W, **Drawing ideas A hand-drawn approach for better design**, Watson-Guption Publications Inc, 2014
- f. Leborg, C, **Visual Grammar**, Princeton Architectural Press, 2006
- g. Kandinsky, W, **Point and Line to Plane**. New York: Dover Publications, 1979
- h. Vyzoviti, S, **Supersurfaces**, BIS Publishers, 2006

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. Students are expected to take responsibility to follow up with assignments and course related announcements. Students 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*

*Subjected to adjustment by instructor according to students' progress, public holidays and unforeseeable circumstances.

Week	Topic	Course LO	Readings/ Activities
1	Visualization and form making principles	4	Drawing mediums, scale, graphic/ technical representation of objects and spaces
2-3	Visualization 1	1,2	Orthographic projection, Isometric and Axonometric projection, Linear perspective (1 point, 2 point)
4-5	Visualization 2	1,2	Ideative/ ideation sketching, illustrative sketching, tone, texture, and shading
7-10	Form making 1	1,3	Model-making materials, scale, mock-up models, concept models, visual models, working from

			orthographic drawings, prismatic and compound form making techniques, joining and construction methods
10-13	Combined project	1,2,3,4,5	Produce visualization and model of a design