

The background is a collage of architectural design elements. On the left, there is a technical drawing of a chair with a grid overlay and arrows indicating movement. In the center, a 3D model of a chair is shown. On the right, a 3D model of a building is displayed on a grid. The title text is overlaid on the top half of the image.

Introduction to Architectural Design I / CAD I

RB @VGU

BSc 1: Architectural Embodiments

WHAT

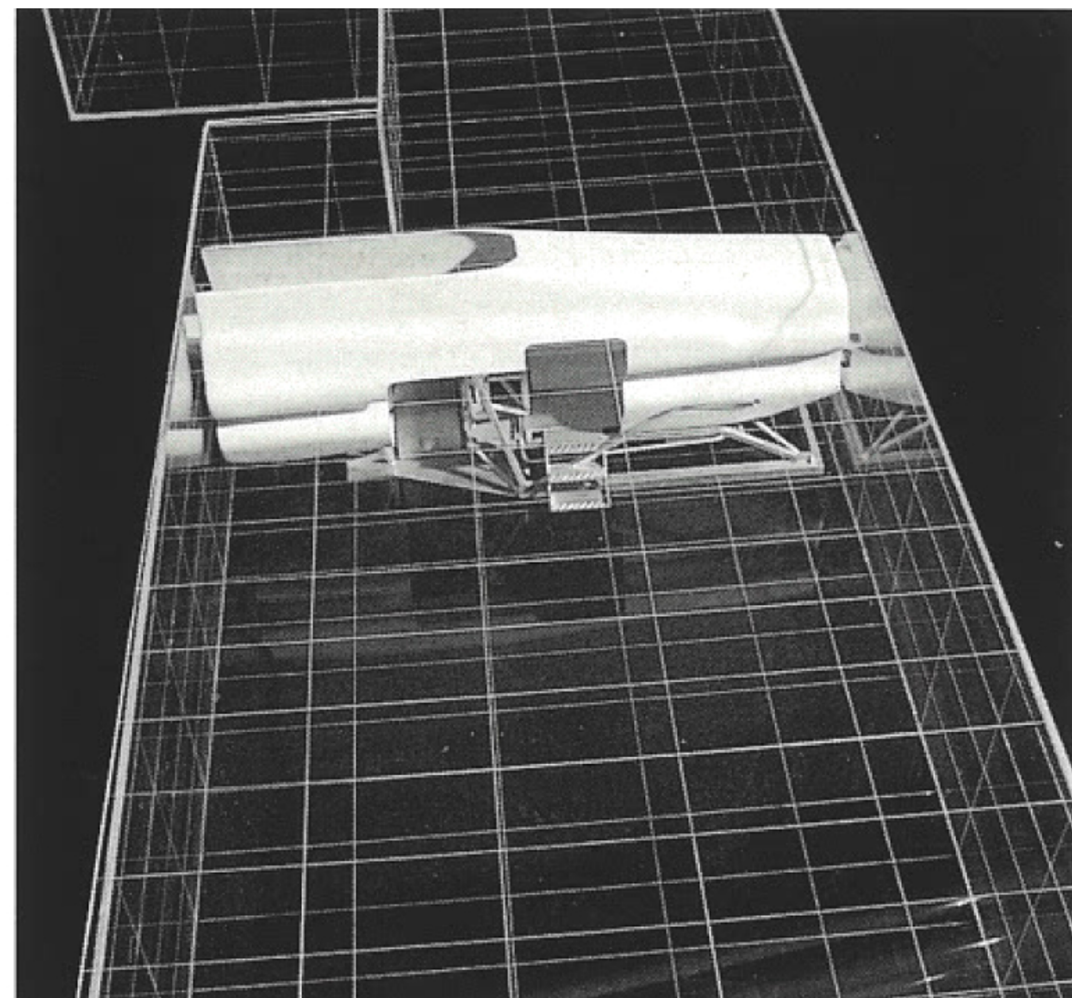
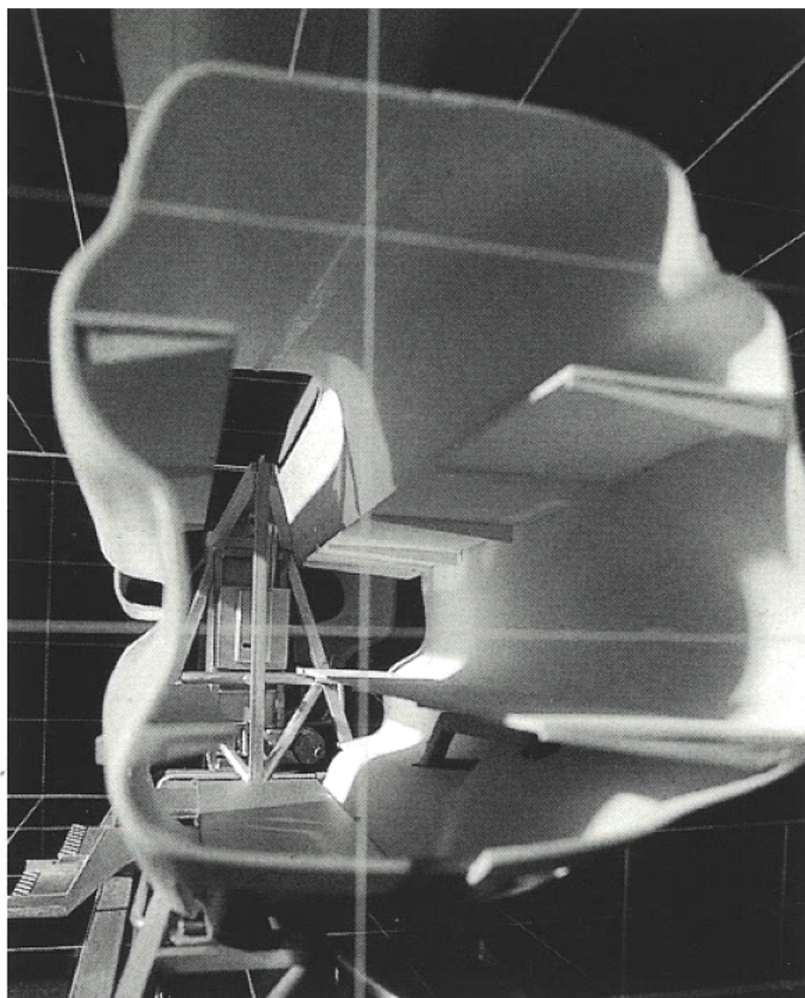
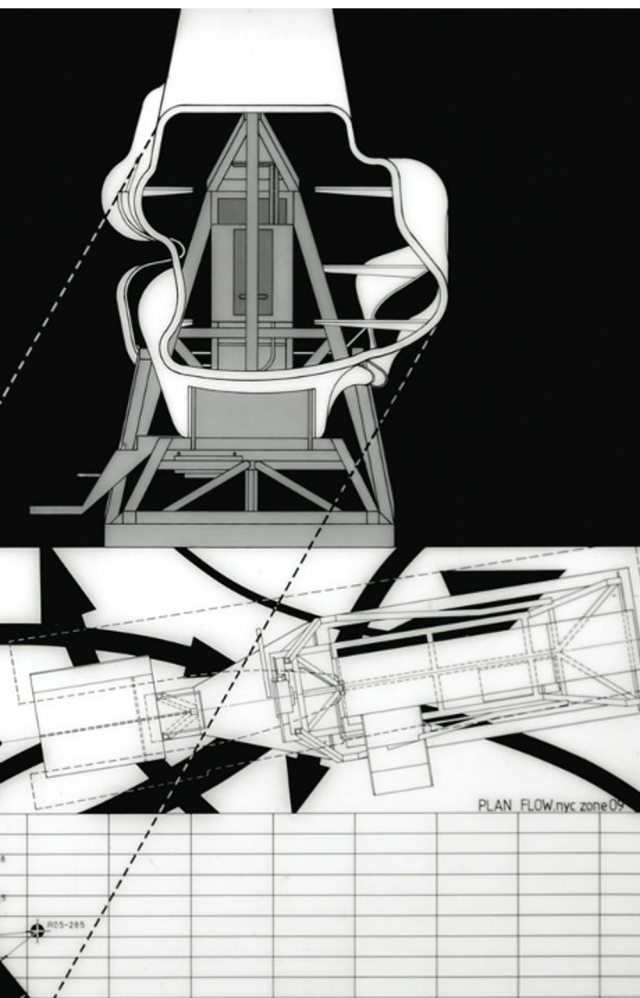


Introduction to Architectural Design I / CAD I

RB @VGU

*Dr.-Ing. Henriette Bier, Associate
Professor TUD, Visiting Professor AUAS*

WHO



Denari (1993)



RB @BSc 1 VGU:

Architectural Design I / Computer-aided Design I : Architectural embodiments

Team:

Henriette Bier and Max Latour

- Architecture is both the process and the product of planning, designing, and constructing buildings.
- Buildings are characterized by features that make them historically identifiable categorized as styles. Styles include aspects such as form, function, method of construction, materials, and local/regional character.
- Architecture is classified within a chronology of styles which changes over time reflecting respective ideologies, fashions, beliefs, technologies, and materials.

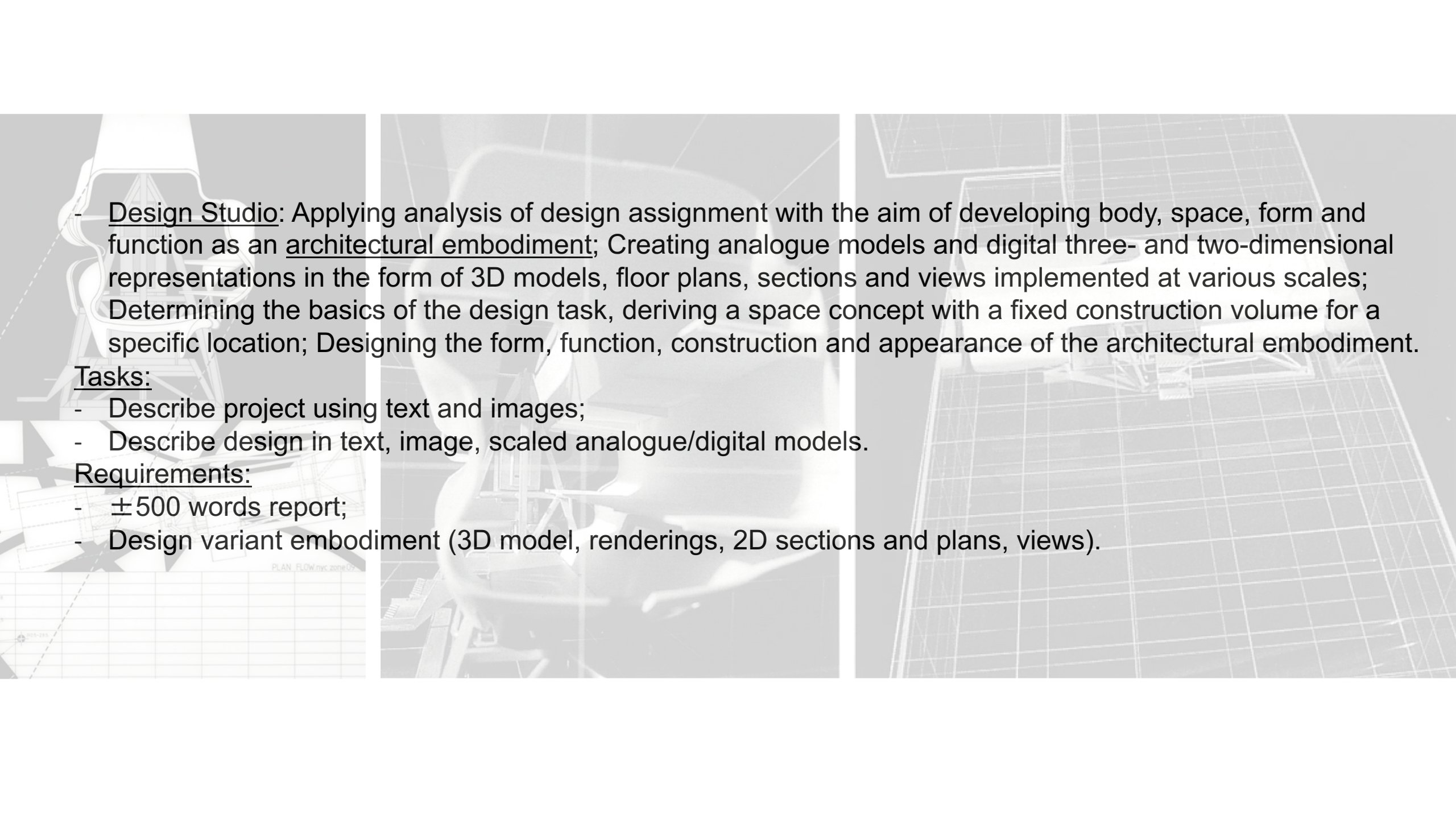


Assignment:

- Architectural embodiments as tangible and visible forms of ideas are defined in the context of the design studio as variations derived from one architecture.
- Based on analysis and reflection on Neil Denari's space separator students will develop variations of it as their own designs. Alternative function, form, method of construction and materials are speculated upon.
- Considering that the supporting frame is made of welded aluminium and the skin is made of moulded fiberglass the students are encouraged to speculate about possible alternative materials (wood, steel, glass, bamboo, etc.) and their impact on design. Furthermore, they are encouraged to speculate on alternative functionalities and forms.

Architectural Design I:

- Culture and Society: Analysis of structural situations with regard to history, culture and society and their interaction with human needs
- Measure of Man: Studies on the development of space and form in relation to human behavior patterns and motion sequences.

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- Design Studio: Applying analysis of design assignment with the aim of developing body, space, form and function as an architectural embodiment; Creating analogue models and digital three- and two-dimensional representations in the form of 3D models, floor plans, sections and views implemented at various scales; Determining the basics of the design task, deriving a space concept with a fixed construction volume for a specific location; Designing the form, function, construction and appearance of the architectural embodiment.

Tasks:

- Describe project using text and images;
- Describe design in text, image, scaled analogue/digital models.

Requirements:

- ± 500 words report;
- Design variant embodiment (3D model, renderings, 2D sections and plans, views).

Computer-aided Design (CAD) I:

- Data organization, systematics of electronic data processing (EDP) and CAD.
- Text processing, standard-compliant reports / business letters, formatting spreadsheets, working with simple formulas and calculations.
- CAD (2-3D): Project structure, drawings, images and layers.
- Create and modify lines and geometric shapes.
- Architectural 2D drawings such as floor plans, sections and views at scale (using hatching, labelling and dimensioning).
- Furnishing, plan processing and plan output.

Tasks:

- Describe employed EDP and CAD methodology using text and images;
- Describe design in text, image, scaled analogue/digital models.

Requirements:

- 500 words report describing CAD methodology and approach using text and images;
- 3D models and architectural 2D drawings at various scales.

	Digital
	Live

Schedule Architectural Design/CAD 1 – BSc 1 2020

Week	CET	Time @VGU	Monday	Tuesday	Wednesday	Thursday	Friday
30.11 - 04.12		08:45-09:30		Tutorial	Tutorial		Excercise
		09:30-10:15		Tutorial	Tutorial		Excercise
				Break	Break		Break
		10:30-11:15		Tutorial	Excercise		Excercise
		11:15-12:00		Tutorial	Excercise		Excercise
				Lunch	Lunch	Lunch	Lunch
	08:00-08:45	13:00-13:45	Intro Lecture	Tutorial	Excercise	Excercise	Review
	08:45-09:30	13:45-14:30	& Tutorial	Tutorial	Excercise	Excercise	Upload
				Break	Break		Break
	09:45-10:30	14:45-15:30	Exercise/Seminar	Excercise	Seminar	Seminar	
	10:30-11:15	15:30-16:15	Review	Excercise	Review	Review	

	Digital
	Life

Schedule Architectural Design/CAD 1 – ARC Intake 2019

1 WEEK

Monday

Lecture/Tutorial (±90 min.)

1. Introduction to CAD I and Architectural Design I / Culture and Society: Analysis of structural situations with regard to history, culture and society and their interaction with human needs / Multi-media (re-)presentation
2. Develop multi-media presentation using PPT and 2-3D modelling tutorials in Rhino and developing own 2-3D models / Data organization, systematics of electronic data processing (EDP) and CAD (data storage, file formats, translating and sharing).

Exercise(±45 min.)

3. Understand structure of tutorials and test the individual use of tutorials.
4. Analyse in groups of 6 students Denari's drawings in order to understand the project functionally and spatially (what are the spaces used for, how big they are and what activities do or could they accommodate, etc.) / Identify alternative use and functional distribution (while preserving the separation between front and back), etc. / Prepare 3 PPT-presentations (one per each group) showing results of the analysis.

Seminar/Review (±45 min.)

5. Present orally PPTs and discuss results of analysis in PechaKucha style

(<https://en.wikipedia.org/wiki/PechaKucha>) / Q&A on Tutorials and Exercises for next day.

	Digital
	Life

Schedule Architectural Design/CAD 1 – ARC Intake 2019

1 WEEK

Tuesday

Tutorials (±270)

1. CAD (2-3D): Project structure, drawings/models, images and layers (import image in Rhino, trace lines, extrude, etc.) / Create and modify lines and geometric shapes / Develop simplified 3D model of the replica (create and modify lines surfaces and 3D geometric shapes, create horizontal and vertical sections).

Exercise (±90 min.)

2. CAD (2-3D): Develop own project structure, drawings/models, images and layers (import image of sections in Rhino, trace lines, tilt/rotate, extrude, etc.) / Create and modify lines, surfaces and 3D geometric shapes / Develop individual simplified model of the replica.

3. Corbusier: Towards a New Architecture (read text and prepare PechaKucha style PPT-presentations organised in 3 groups of 6 students each; groups 1-3 read pp. 21-65, pp. 85-129, and pp. 149-199, respectively whereas each student reads ±7 pages, summarizes the content, and discusses it with his/her group mates).

Week	CET	Time @VGU	Monday	Tuesday	Wednesday	Thursday	Friday
		08:45-09:30		Tutorial	Tutorial		Excercise
		10:30-11:15		Tutorial	Excercise		Excercise
		11:15-12:00		Excercise	Excercise		Excercise
04.12	08:00-08:45	13:00-13:45	Intro Lecture	Tutorial	Excercise	Excercise	Review
	08:45-09:30	14:45-15:30	Excercise	Excercise	Seminar	Seminar	
	10:30-11:15	15:30-16:15	Excercise	Excercise	Review	Review	

	Digital
	Life

Schedule Architectural Design/CAD 1 – ARC Intake 2019

1 WEEK

Wednesday

Tutorials (± 90 min.)

Exercise (± 180 min.)

1. CAD (2-3D): Develop individual simplified model of the replica (create and modify lines surfaces and 3D geometric shapes).
2. Prepare individual PPT-presentations in PechaKucha style showing individual simplified model of the replica.
3. Seminar/ Review (± 90 min.)
3. Corbusier: Towards a New Architecture (present PPT-presentation in PechaKucha style and discuss content).
4. Present individual simplified model of the replica as 3D model / Q&A and discussion on Tutorials and Exercises for next day.

Week	CET	Time @VGU	Monday	Tuesday	Wednesday	Thursday	Friday
		08:45-09:30		Tutorial	Tutorial		Excercise
		09:30-10:15		Tutorial	Tutorial		Excercise
		10:30-11:15		Tutorial	Excercise		Excercise
		11:15-12:00		Tutorial	Excercise		Excercise
		13:00-13:45	Intro Lecture & Tutorial	Tutorial	Excercise	Excercise	Review
		13:45-14:30		Tutorial	Excercise	Excercise	Upload
				Break	Break		Break
	09:45-10:30	14:45-15:30	Exercise	Excercise	Seminar	Seminar	
	10:30-11:15	15:30-16:15	Exercise	Excercise	Review	Review	

	Digital
	Life

1 WEEK

Thursday

Exercise (± 90 min.)

1. CAD (2-3D): Develop individual simplified model of the replica (create surface tectonics i.e. facettation, create simple horizontal and vertical sections) and prepare PPT-slides in PechaKucha style.
2. Relevant literature BSc I (read text organised in 3 groups pages pp. 18 and 25, pp. 19-21, and pp. 22-24 and prepare 3 PPT-presentations in PechaKucha style).

Seminar/ Review (± 90 min.)

3. Relevant literature BSc I (present PPT-presentations in PechaKucha style and discuss content).
4. Present individual simplified model of the replica PPT-presentations in PechaKucha style. Q&A and discussion on Tutorials and Exercises for next day.

	Time @VGU	Monday	Tuesday	Wednesday	Thursday	Friday
	08:45-09:30		Tutorial	Tutorial		Exercise
	09:30-10:15		Break	Break		Break
	10:15-11:00			Exercise		Exercise
	11:00-11:45		Lunch	Lunch	Lunch	Lunch
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	08:45-09:30	13:45-14:30	& Tutorial	Tutorial	Exercise	Exercise
			Break	Break		Break
	09:45-10:30	14:45-15:30	Exercise	Exercise	Seminar	Seminar
	10:30-11:15	15:30-16:15	Exercise	Exercise	Review	Review

	Digital
	Life

Schedule Architectural Design/CAD 1 – ARC Intake 2019

1 WEEK

Friday

Exercise (± 180 min.)

1. Finalise simplified model of the replica and compile PPT-slides in PechaKucha style to present final 3D model of the replica.

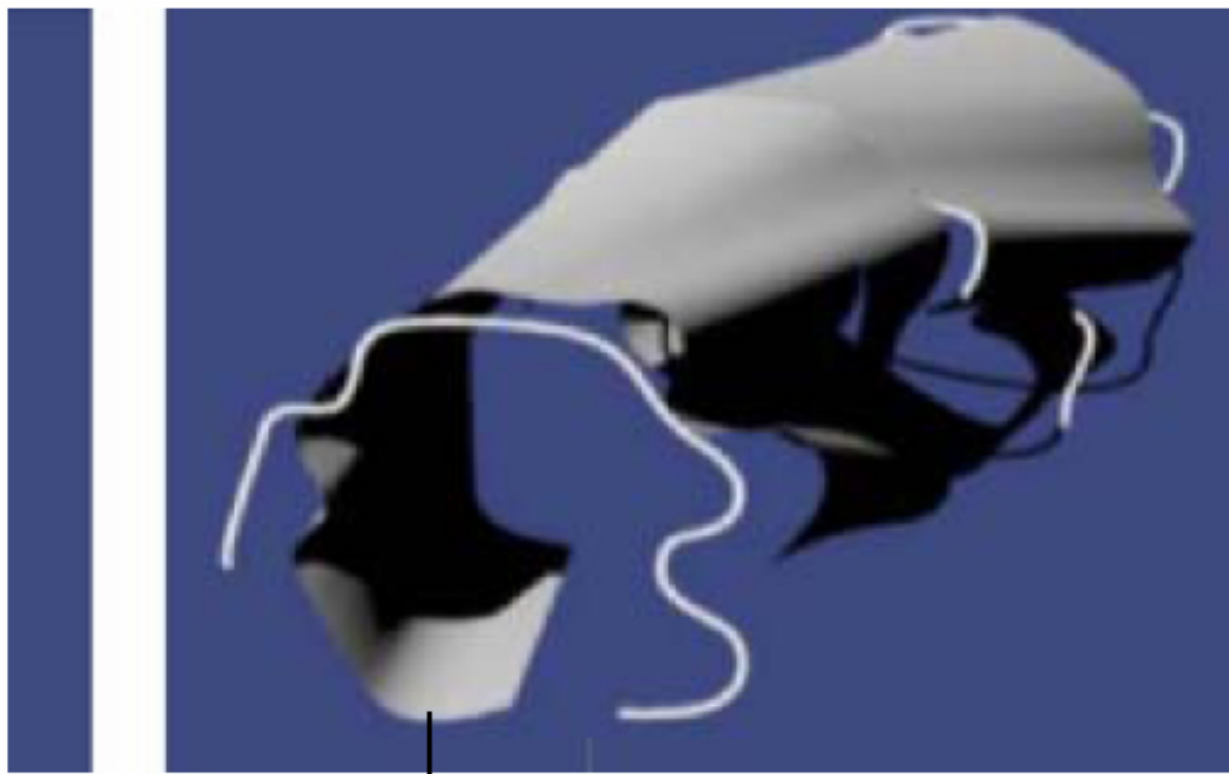
Review/Upload (± 90 min.)

2. PPT-presentations in PechaKucha style and discussion of final 3D model of the replica.

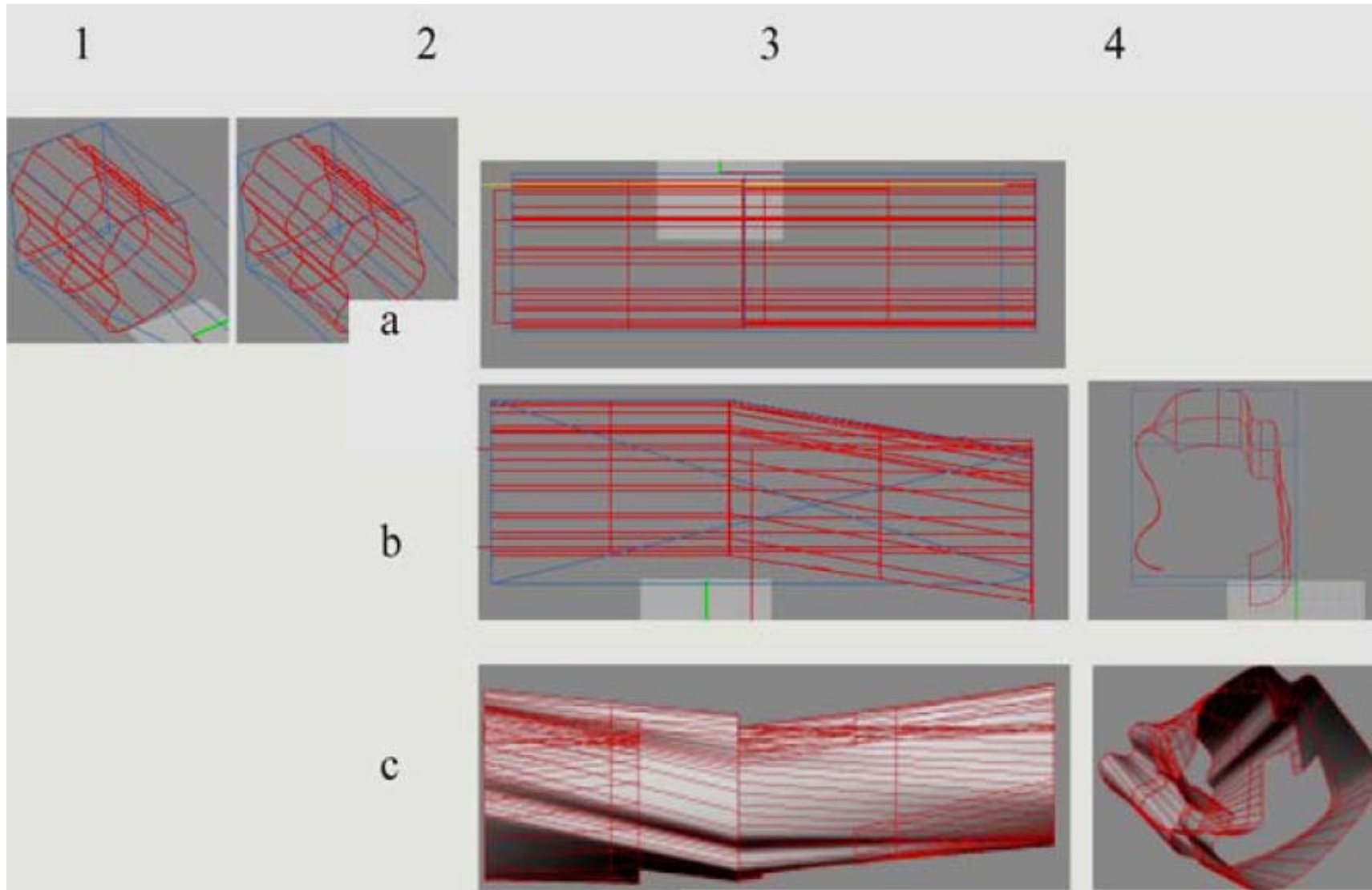
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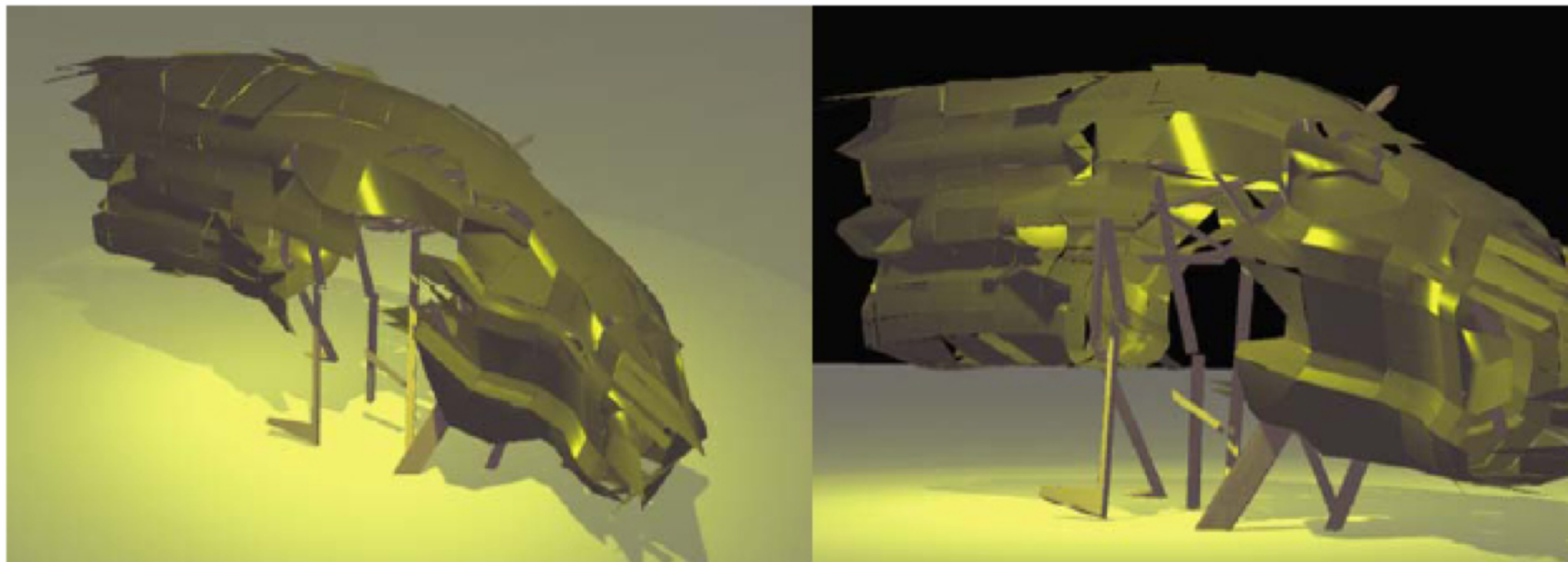
ORIGINAL



REPLICA

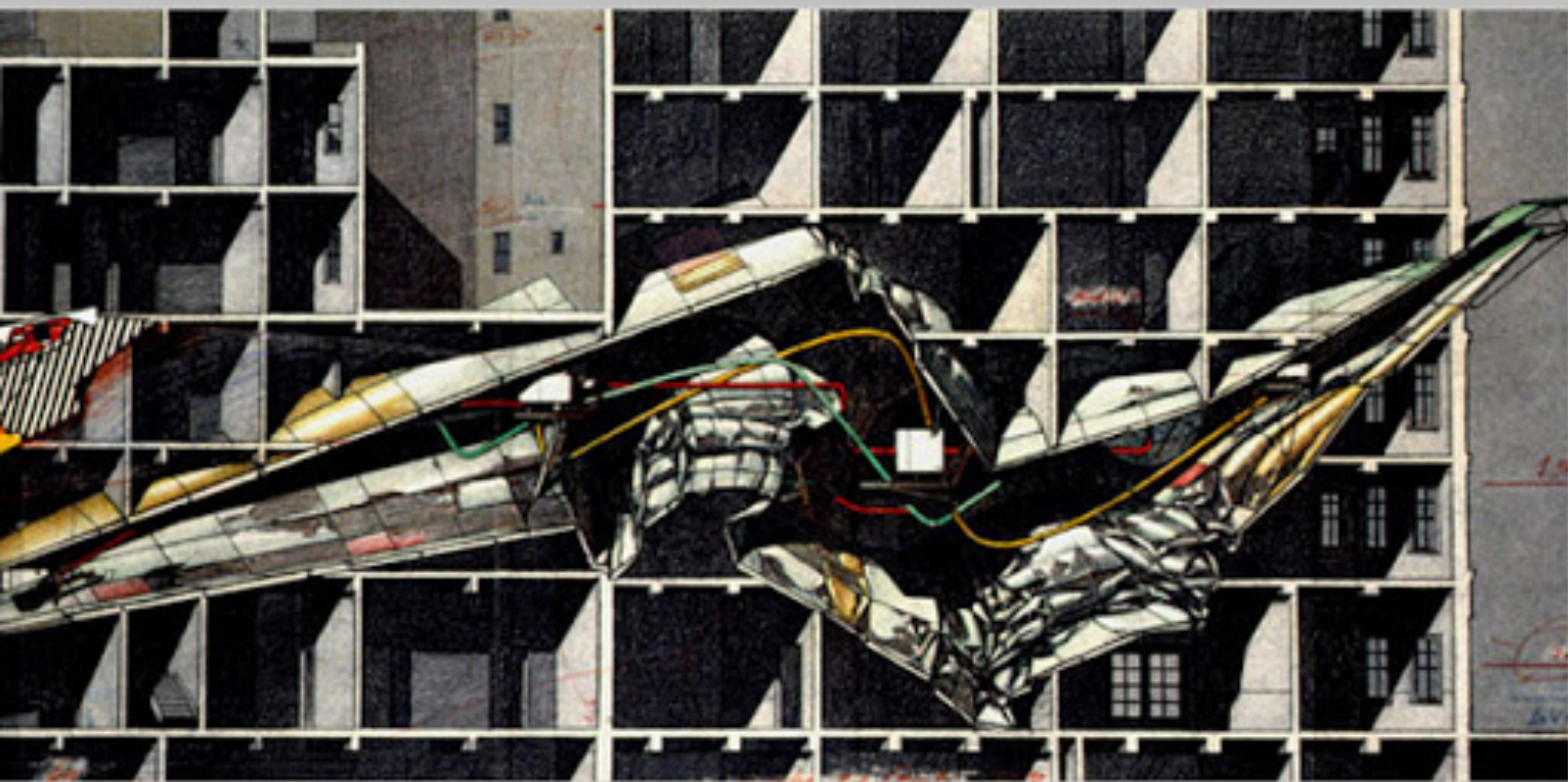


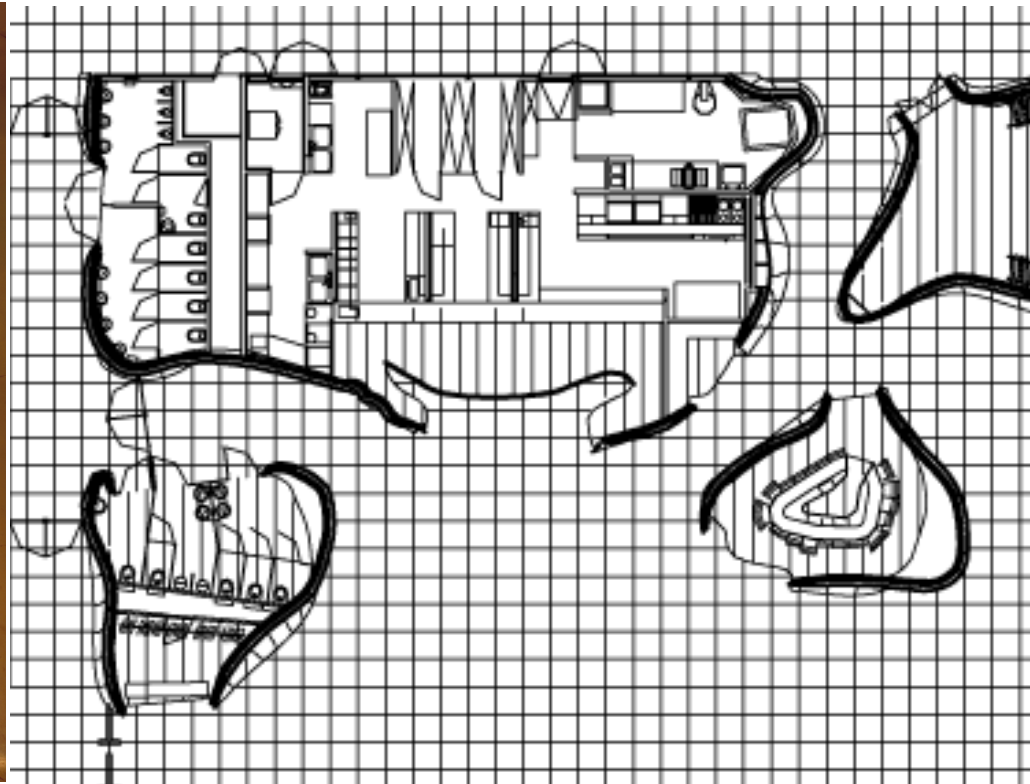
TRANSFORMATION



REPLICA: L. WOODS







Facetted vs. Curvilinear