



# HANYANG UNIVERSITY

## Hanyang International Summer School

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<b>Course Information</b>	<b>Class No.</b>	18056	<b>Course Code</b>	ARE5001	<b>Credits</b>	3
	<b>Course Name</b>	Digital Design Studio				
	<b>Lecture Schedule</b>	Mon-Thu /13:00~16:00				
	<b>Course Description</b>	<p>This course will introduce students to the basics of digital architecture and how to use Grasshopper for Rhino3D, a powerful algorithmic modeling software, to create complex forms and patterns for building facades and small objects. The course will also cover how to create photorealistic renderings using Twinmotion and how to create a VR tour as a team.</p> <p><u>Note:</u> The exact schedule for the team project may vary depending on the length of the course and the availability of the students</p>				
	<b>Course Objective</b>	<p>Objective 1: Understand the principles of parametric design and how to use Grasshopper to create novel designs for façade pattern or small objects.</p> <p>Objective 2: Learn how to use Twinmotion for real-time rendering and create photorealistic visualizations.</p> <p>Objective 3: Learn how to create immersive VR tours with the panorama rendered images and experience the design in a virtual environment.</p>				
	<b>Prerequisite</b>	Prior experience in 3d modelling using Rhino3D is advantageous but not required.				
	<b>Materials/Textbooks</b>	While a computer will be provided, it is advisable to bring your personal laptop.				
<b>Evaluation</b>	<b>Attendance</b>	10%	<b>Quiz</b>	%		
	<b>Assignment</b>	%	<b>Mid-term Exam</b>	%		
	<b>Presentation</b>	20%	<b>Final Exam</b>	%		
	<b>Group Project</b>	40%	<b>Participation</b>	30%		
	<b>Etc.</b>	<b>Evaluation Item</b>			<b>Ratio</b>	
				%		
				%		



<b>Daily Lecture Plan</b>	<b>Week 1</b>	Day 1	Opening Ceremony
		Day 2	Introduction to Parametric Design, Rhino3D/Grasshopper
		Day 3	Grasshopper: Basic components and data types
		Day 4	Grasshopper: Creating and manipulating 2D and 3D geometry
	<b>Week 2</b>	Day 1	Grasshopper: Advanced geometries and data management
		Day 2	Grasshopper: Penalization using Grasshopper plug-ins
		Day 3	Grasshopper: Using optimization algorithms and exercises
		Day 4	Team Project: Brainstorming ideas and developing the design
	<b>Week 3</b>	Day 1	Team Project Design development
		Day 2	Twinmotion: Introduction to Twinmotion and importing models
		Day 3	Twinmotion: Placing objects and applying textures
		Day 4	Twinmotion: Rendering Images
	<b>Week 4</b>	Day 1	Twinmotion: Creating Videos
		Day 2	Twinmotion: Creating Panorama Images
		Day 3	Creating VR Tour
		Day 4	Final Project Presentations