

1A FISA

CU 5.5

Semester 5

6 School ECTS - 0 Company ECTS

CU 5.5: PRODUCT REPRESENTATION AND PROCESS LEARNING

Director of studies: Marc JAFFRES

General CU objectives:

- Develop the detailed digital design model.
- Ensure product's technical feasibility.
- Check the proposed product's compliance with the specifications.
- Collate the definition file (General drawings, definition drawings, BOMs, sketches, etc.)
- Integrate the product into its environment.
- Develop and organise technical databases of interior, exterior and construction products.
- Ensure the exchange of information with the design.
- Implement machinery and tools

Consists of:

- Module 1: Characterisation of products and structures— Representation systems
- Module 2: Design of a digital model for construction
- Module 3: Basic Process Learning-Safety
- Module 4: Not applicable

Hourly volume

In-person

Self-directed study

22.75 H Lectures

20.00 H Tutorials

100.00 H

40.00 H Practicals

Positioning of the CU in the School reference system:

Semester 5

Units of skills

In accordance with the RNCP sheet



In-class exam- File

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Module 1: Characterisation of products and structures— Representation systems Session leaders: Pierre-Jean MÉAUSOONE, Alain RENAUD, Marc JAFFRES Teaching assistants: Prerequisites: none Teaching materials: Course notes – Presentation slides – Reading list – Reference book – Files Assessment methods: individual

Learning outcomes	Dinki	Number of student hours (in-person)		
	Description	Lecture	Tutorial	Practica
		S	S	ls
Define components based on an assembly	The representation of the works: Representation rules and conventions. Rules and standards for different types of structures Constructive provisions relating to connections and assemblies Representation of materials and products used in construction	1.75	2.00	
drawing and a specification file.				
Represent an element, from views, from an assembly Decode and analyse a definition file, a	Types of representations: - The different types of graphic representations are: - Sketch	3.50	6.00	
construction file. Define products	DiagramOutlineArchitect's file			
Complete the views.	General drawingSpecification drawing			
Ensure feasibility.	Layout plan.Fittings register, masonry reservation plan			
Dimensionally and geometrically characterise a product.	 Workshop drawings: scaled-down layout Perspectives, integration into the site Exploded perspective 			
Outline the details.				

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	 Wall components in construction Sustainability: constructive prevention Assemblies 			
	Construction products and materials. Basic product overview: — Timber-based engineering materials — Exterior woodwork	5.25		
Know the constructive systems. Understand the principles of element connection in construction. Define principles to improve the sustainability of constructions.	Functional rating: Functional clearance — Dimension chains. — Geometric defects of parts. — Functional conditions of assemblies and guides.	1.75	2.00	
materials and products used in interior and exterior design. Set up a database and information on timber materials and products used in construction.	Configuration of joints on software (Cabinet Vision)		2.00	
Set up a database and information on timber	Modes of assembly of exterior and interior fittings: – The materials – The different products – Joints – Methods	1.75	2.00	
Define the assembly,	Product definition: - Dimensional specifications and tolerances. - geometric specifications and tolerances. - surface condition - BOMs (flat, by mounting level, tree structure, etc.) - Components characterisation. - Characterisation of joints (permanent, mobile, removable).	3.50	2.00	

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Module 2: Design of a digital model for construction	Coefficient 1
Session leaders: Sébastien AUCHET, Alain RENAUD	
Teaching assistants:	
Prerequisites: none	
Teaching materials: Course notes – Presentation slides – Reference book - Project	
Assessment methods: individual	
File	

Learning outcomes	Description	Number of student hours (in-person)			
			Tutorial	Practica	
Define the characteristics of a modeller. Design a digital model of a product (furniture, fittings, interior joinery, etc.) using a volume modeller. Understand the design issues applied to wood material and intended for a company in the timber industry.	Volume modeller (SolidWorks): - Configuration - Construction tree diagram - Assembly constraints - Different design methods (in the assembly, by part, by functional surfaces, by plan mode, by diagram mode, etc.). - Use of technical libraries and a business database (PDM).	1.75	S	16.00	
	Use of configurable product design software package (Cabinet Vision).			4.00	
		1.75	0.00	20.00	

File- Product made

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CU 5.5: PRODUCT REPRESENTATION AND PROCESS LEARNING

Module 3: Basic Process Learning – Safety	Coefficient 2
Session leaders: Pierre-Jean MÉAUSOONE, Sébastien AUCHET, Alain RENAUD, Marc JAFFRES	
Teaching assistants: Cyril DEHARBE, Hervé DELAMARRE	
Prerequisites: none	
Teaching materials: Course notes – Presentation slides – Reference book	
Assessment methods: Individual	

Learning outcomes	Description	Number of student hours (in-person)			
		Lecture s	Tutorial s	Practical s	
Define and characterise the different processes and means of production of the 2st processing. Apply safety procedures, Implement the production means. Check products and machines.	The second wood transformation Study of wood machining processes Definition of machining operations.	3.50	3	3	
	Characterisation of furniture and joinery manufacturing circuits.		4.00		
	Safety rules, employees' safety obligations and safety procedures, PPE Traditional woodworking machines, logical manufacturing circuit. Production of products according to preestablished manufacturing files with a group work logic. Measurement and inspection of parts.			20.00	
		3.50	4.00	20.00	