

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

<i>In-person</i>	<i>Self-directed study</i>
22.75 H Lectures	100.00 H
20.00 H Tutorials	
40.00 H Practicals	

Positioning of the CU in the School reference system:

Semester 5

Units of skills

In accordance with the RNCP sheet

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Module 1: Characterisation of products and structures– Representation systems	Coefficient 2
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 In-class exam– File	

Learning outcomes	Description	Number of student hours (in-person)		
		Lecture s	Tutorial s	Practica ls
<p>Define components based on an assembly drawing and a specification file.</p> <p>Represent an element, from views, from an assembly...</p> <p>Decode and analyse a definition file, a construction file.</p> <p>Define products</p> <p>Complete the views.</p> <p>Ensure feasibility.</p> <p>Dimensionally and geometrically characterise a product.</p> <p>Outline the details.</p>	<p>The representation of the works:</p> <ul style="list-style-type: none"> – 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	
	<p>Types of representations:</p> <ul style="list-style-type: none"> – The different types of graphic representations are: – Sketch – Diagram – Outline – Architect's file – General drawing – Specification drawing – Layout plan. – Fittings register, masonry reservation plan – Workshop drawings: scaled-down layout – Perspectives, integration into the site – Exploded perspective 	3.50	6.00	

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Define the assembly, <

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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)		
		Lectures	Tutorials	Practicals
<p>Define the characteristics of a modeller.</p> <p>Design a digital model of a product (furniture, fittings, interior joinery, etc.) using a volume modeller.</p> <p>Understand the design issues applied to wood material and intended for a company in the timber industry.</p>	Design with CAD software	1.75		
	<p>Volume modeller (SolidWorks):</p> <ul style="list-style-type: none"> – 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). 			16.00
	Use of configurable product design software package (Cabinet Vision).			4.00
		1.75	0.00	20.00

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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 File– Product made	

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