1A FISE	CU 5.1
Semester 5	4 School ECTS

CU 5.1: DEVELOPING A PROFESSIONAL ENGINEERING ETHIC IN THE FORESTRY-TIMBER INDUSTRY

Director of studies: Laurent BLERON

General CU objectives:

Wood, a bio-based material, serves both as a construction resource and an energy source, while green chemistry offers new opportunities for its innovative use.

As a renewable resource, wood has gained strategic importance globally due to its economic and environmental significance.

Today, forests are recognised for more than just their economic value. There is growing debate surrounding their multifunctional roles.

This CU aims to:

• provide a deeper understanding of the national and global forest context, including its evolution and key characteristics.
• introduce forestry management practices—primarily focused on production—while exploring the multifunctional role of forests and the importance of wood in addressing societal needs.
• Understand all the processing and application sectors related to the use of wood and position them in an historical, architectural, economic, social and environmental context, both local and global.
• assess the interactions between forests and timber use; engineering and architecture; industry, science, and society; and industrial activities and the environment.

Ethics and the role of the engineer in the forest-timber sector will serve as the central theme of this course unit. To this end, it will:
• encourage engineering students to critically examine their role, responsibilities, and ethical obligations within the profession,
• gather the first elements of reflection constituting a professional project in the forest-timber sector.

Consists of:
- Module 1: The fundamentals of forestry and timber
- Module 2: Engineers, ethics and social responsibility
- Module 3: Not applicable
- Module 4: Not applicable

Hourly volume

In-person		*Self-directed study*
32.50 H	**Lectures**	**30.00 H**
0.00 H	**Tutorials**	
12.00 H	**Practicals**	

Positioning of the CU in the School reference system:

From the beginning of September in the first year.

Units of skills
In accordance with the RNCP sheet

Updated on 19 March 2025

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Module 1: The fundamentals of forestry and timber	**Coefficient 4**
Session leaders: Pascal TRIBOULOT, Mireille SEVELEDER (ONF) and ONF employees, Patrick MARTIN (Tropical Timber Expert), Mériem FOURNIER (INRAE), Pierre-Emmanuel HUET (PEFC France), Jérôme MARTINEZ (BOIS de France)	
Teaching assistants: To accompany outings and visits.	
Prerequisites: none	
Teaching materials: Course notes – Presentation slides – Reading list – Reference book – Visits	
Assessment methods: Individual MCQ, final examination Visit report	

Learning outcomes	**Description**	**Number of student hours (in-person)**		
		Lectures	**Tutorials**	**Practicals**
Have general knowledge of the national and global forestry context, on markets, on the global timber trade. Understand the place of timber in the context of materials, energy and the bioeconomy. Understand the importance of forests and timber in environmental and social issues. Have elements of appreciation on the resource, its evolution, and on forestry practices. Know the general organisation of the professional timber sector in France.	Timber and Forestry, general context, elements of reflection. • Situation and outlook • Resources • Environmental issues, sustainable development and society • First approach to timber, its uses, its performance and its markets. • Structuring of the industry (company visits) Pascal TRIBOULOT	7.00		8.00
	Appraisal of the timber industry in France. Pierre-Emmanuel HUET (PEFC France) Jérôme MARTINEZ (BOIS de France)	3.50		
	Forests, forestry and forest products for a sustainable future. Forest typology and practices. • Conversion and processing • Hardwood forestry • Softwood forestry • Objective trees and productive forests (field trip) Mireille SEVELEDER (ONF)	3.50		4.00
	Tropical forests and woods, context and issues Patrick MARTIN (Expert)	2.75		
	Thematic lecture, according to current events Mériem FOURNIER (INRAE)	1.75		
		18.50	**0.00**	**12.00**

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Module 2: Engineers, ethics and social responsibility	**Coefficient 4**
Session leaders: Pascal TRIBOULOT, Jean-Claude BIGNON (ENSAN), Samuel NOWAKOWSKI	
Teaching assistants: To accompany outings and visits.	
Prerequisites: none	
Teaching materials: Course notes – Presentation slides – Reading list – Reference books – Operations visits	
Assessment methods: individual MCQ, examination Report	

Learning outcomes	**Description**	**Number of student hours (in-person)**		
		Lectures	**Tutorials**	**Practicals**
Have the basic elements needed to build a professional project. Have good general culture on the history and role of timber in global architecture. Recognise the presence of ethical issues in professional situations. Know how to identify the elements of the context of action (organisational, psychosocial, interests of the various stakeholders concerned, etc.) that can influence the conditions of engineers' work and their professional responsibility. Know how to rely on conceptual ethical tools to consider ethical solutions.	Place, fields and functions of the ENSTIB engineer in the timber-forestry sector Pascal TRIBOULOT	1.75		
	The role of wood in human history and built structures. The great contemporary achievements using timber. Architectural trends. Jean-Claude BIGNON	3.50		
	The course aims to raise awareness of: • social and human implications related to the engineering profession. • societal and environmental consequences and impacts of actions and decisions. Ethics? (General, philosophy, etc.) Engineering ethics and careers in the timber-forestry sector. The big questions: citizenship, commons, the humanities, humanist engineers through: • controversial uses of technological innovations, • conflicts and tensions between individual and collective interests, • consideration of technology's impacts on the environment and society, technological solutionism, etc. Samuel NOWAKOWSKI	8.75		
		14.00	**0.00**	**0.00**

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