

HEAT INSULATING AND FINISHING MATERIAL TECHNOLOGY

Credits	2 (2.0.5)		Course code	CI3091	
Periods	Total: 30	Theory: 30	Exp:	Project:	Work: yes
Evaluation	Work: 0	Report: 20 %	Application	Homework: 20%	Exam: 60%
Evaluation type	<ul style="list-style-type: none"> - Midterm exam: 45 minutes - Final exam: 90 minutes 				
Prerequisite course					
Previous course					
Co-requisite course					
Training field	Technology of Construction Materials				
Standard	Undergraduate				
Course grade	3				
Other notes	Class 2 unit / week				

Aims of course

Introduce the field of engineering and focus on the heat insulating and Finishing Material Technology in construction materials.

Explain the CDIO principle such as Conceive – Design – Implement – Operate a product on ceramic manufacturing project. The student have ability to select and design a material processing

Recognize key elements of selection of raw material, problem solving, mix design and process management in manufactory. Hence, the student can explain and introduce to materials design project by communication.

Course outline

Provide students an introduction to and knowledge to select material, mix proportion, design and operate the ceramic manufactory. Deep knowing in designing and processing in fields of fiber materials, porous concrete, light weight concrete and finished material. The student have ability to select machine and to manage the process.

Study documents

Books

- [1] Công nghệ vật liệu cách nhiệt, “Nguyễn Như Quý”, NXB xây dựng 2002
- [2] Vật liệu và các sản phẩm xây dựng, “Phùng Văn Lự”, NXB xây dựng 2002
- [3] Công nghệ vật liệu khoáng cách âm cách nhiệt, “Nguyễn Văn Chánh, Nguyễn Văn Phiêu”, NXB Xây dựng 2005.
- [4] Công nghệ bê tông nhẹ , “Nguyễn Văn Chánh, Nguyễn Văn Phiêu”, NXB Xây dựng 2005.

Learning outcomes

STT	Learning outcomes	CDIO
L.O.1	Apply basic science and basically knowledge on analysis materials	1.3, 1.4
	L.O.1.1- Apply mathematic on mix proportion	1.3.2
	L.O.1.2- Remember thermal conductivity equation	1.3.3
	L.O.1.3- Know factor on thermal conductivity equation	1.4.2
	L.O.1.4- Remember structure of material	1.4.3 1.4.4
L.O.2	Know heat insulating and finishing material technology	4.1
	L.O.2.1- Introduce materials processing	4.1.2
	L.O.2.2- Introduce characteristic of heat insulating and finishing material	4.1.3 4.1.5
	L.O.2.3- Specification of materials	4.1.6
	L.O.2.4- Heat insulating and finishing material on building	
L.O.3	Introduce raw material and selection	2.1, 2.2, 2.3
	L.O.3.1- Introduce Raw material	2.1.2
	L.O.3.2- Show factor of raw material on processing	2.1.3
	L.O.3.3- Know property of raw material	2.2.2
	L.O.3.4- Know effect of raw material on proportion	2.2.3
	L.O.3.5- Calculate mix proportion	2.3.2 2.3.3
L.O.4	Show detail of processing	2.3, 4.3
	L.O.4.1 – Show parts of module manufacturing	2.3.2
	L.O.4.2 – Know effect of module manufacturing	2.3.3
	L.O.4.3 – Plan the processing	4.3.1 4.3.2
L.O.5	Design and select manufacturing process	4.4, 4.5

	L.O.5.1 – Calculate and select equipment on process	4.4.1
	L.O.5.2 – Plan equipment on processing	4.4.2
	L.O.5.3 – Design the processing	4.4.3
	L.O.5.4 – Calculate and connect the processing	4.5.1
		4.5.2
L.O.6	Teamwork and presentation	3.1, 3.2
	L.O.6.1 – Teamwork	3.1.2
	L.O.6.2 – Present the manufacturing process	3.2.2
		3.2.4

Learning strategies & Assessment scheme

Total score of course includes:

- Homework: 20%
- Report: 20%
- Final exam: 60%

Instructors

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- Dr. Vũ Quốc Hoàng
- Dr. Lê Anh Tuấn
- Assoc. Prof. Trần Văn Miên