



Ministry of Education and Training  
Nong Lam University  
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Form: C2040.001  
Version: BA2018

### CREDIT BASED CURRICULUM

(Pursuant to the decision: 3434/QĐ-DHNL-DT, November -11- 2020 of President)

**Credit based Training System: Formal Undergraduate (Full-time)**

**Faculty : Chemical Engineering Department**

**Discipline : Chemical Engineering and Processing**

**Major: Biomass Conversion Technology & Biorefinery**

**Minimum credits: 158 Credits**

**Minimum GPA: 2.0**

No	Module	English subjects	Credits	Total Number	Theory	Practice	Internship	Project	Thesis	Year	SM	Prior study	Prerequisite	Concurrent
<b>1. Fundamental knowledge:</b>														
<b>Required subjects</b>														
1	200101	Philosophy of marxism and Leninism	3	45	45	0	0	0	0	1	1			
2	200102	Political Economics of Marxism and Leninism	2	30	30	0	0	0	0	1	1			
3	202108	Advanced Mathematics A1	3	45	45	0	0	0	0	1	1			
4	202301	General Chemistry	3	45	45	0	0	0	0	1	1			
5	202304	General Chemistry Laboratory	1	30	0	30	0	0	0	1	1			
6	202501	Physical Education 1	1	45	0	0	45	0	0	1	1			
7	202622	General Law	2	30	30	0	0	0	0	1	1			
8	214103	General Informatics	3	60	30	30	0	0	0	1	1			
9	200103	Scientific Socialism	2	30	30	0	0	0	0	1	2			
10	200105	History of Vietnamese Communist Party	2	30	30	0	0	0	0	1	2			
11	200201	Military training (theory)	3	45	45	0	0	0	0	1	2			
12	200202	Military training (practice)	3	90	0	90	0	0	0	1	2			
13	202109	Advanced Mathematics A2	3	45	45	0	0	0	0	1	2			
14	202502	Physical Education 2	1	45	0	0	45	0	0	1	2			
15	213603	English 1	4	60	60	0	0	0	0	1	2			
16	213604	English 2	3	45	45	0	0	0	0	2	1	213603		
17	217301	General Biochemistry	2	30	30	0	0	0	0	2	1			



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18	217304	General Microbiology	2	30	30	0	0	0	0	2	1			
19	200107	Ho Chi Minh Ideology	2	30	30	0	0	0	0	4	2			
<i>Total</i>			<i>45</i>	<i>810</i>	<i>570</i>	<i>150</i>	<i>90</i>	<i>0</i>	<i>0</i>					
<b>Elective subject - completed 0101 - accumulated at least 2 credits : 3 credits</b>														
1	202201	General Physics 1	2	30	30	0	0	0	0	1	2			
2	202202	Physics Experiments 1	1	30	0	30	0	0	0	1	2			
3	202302	Analytical Chemistry	2	30	30	0	0	0	0	1	2	202301		
4	202305	Analytical Chemistry Laboratory	1	30	0	30	0	0	0	1	2			
<i>Total</i>			<i>6</i>	<i>120</i>	<i>60</i>	<i>60</i>	<i>0</i>	<i>0</i>	<i>0</i>					
<b>2. Fundamental specialized knowledge:</b>														
<b>Required subjects</b>														
1	217111	Physical Chemistry 1	2	30	30	0	0	0	0	2	1			
2	217112	Technical drawing	2	45	15	30	0	0	0	2	1			
3	217109	Physical Chemistry 2	3	60	30	30	0	0	0	2	2			
4	217202	Introduction to Chemical Engineering	3	45	45	0	0	0	0	2	2			
5	217209	Mechanical Separation Process	3	55	35	20	0	0	0	2	2			
6	217308	Biochemistry Technology and Application	3	60	30	30	0	0	0	2	2	217301		
7	217303	Organic Chemistry Synthesis Process	2	30	30	0	0	0	0	2	2	202301		
8	217307	General Electrical Engineering	2	38	23	15	0	0	0	2	2			
9	217110	Physical properties of material	3	60	30	30	0	0	0	3	1	217111		



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No	Module	English subjects	Credits	Total Number	Theory	Practice	Internship	Project	Thesis	Year	SM	Prior study	Prerequisite	Concurrent
10	217227	Heat and Mass Transfer	4	75	45	30	0	0	0	3	1	217209 217111		
11	217211	Instrumentation and Process Control	2	35	25	10	0	0	0	3	1			
12	217224	Statistics and Experimental Design	3	60	30	30	0	0	0	3	1			
13	217226	Computer Application in Chemical Engineering	3	75	15	60	0	0	0	3	1			
14	217919	Laboratoy Safety	2	30	30	0	0	0	0	3	1	217302		
<i>Total</i>			<i>33</i>	<i>698</i>	<i>413</i>	<i>285</i>	<i>0</i>	<i>0</i>	<i>0</i>					
<b>Elective subject - completed 0201 - accumulated at least 2 credits : 14 credits</b>														
1	217107	Inorganic Chemistry	2	45	15	30	0	0	0	2	1			
2	217114	Basic Principles of Colloid Chemistry	2	45	15	30	0	0	0	2	1			
3	217117	Organic Chemistry	2	45	15	30	0	0	0	2	1			
4	217101	Instrumental Analytical Chemistry	3	60	30	30	0	0	0	2	2	202305 202302		
5	217108	Analytical methods for physio-chemical components	2	38	23	15	0	0	0	2	2	202304 202301		
6	217222	Freezing Technology and Application	2	38	23	15	0	0	0	3	1			
7	217707	Analytical Methods for Molecular Spectrometry	2	30	30	0	0	0	0	3	1			
8	217914	Marketing Basic	2	30	30	0	0	0	0	2	2			
9	217115	Start-up Basic	2	30	30	0	0	0	0	2	2			
10	217609	Quality Management for Food Plants	2	30	30	0	0	0	0	2	2			
11	217709	Green Chemistry	2	60	30	30	0	0	0	2	2			
12	217708	Methods of Separation & Refinery	2	45	30	15	0	0	0	3	1			
<i>Total</i>			<i>25</i>	<i>496</i>	<i>301</i>	<i>195</i>	<i>0</i>	<i>0</i>	<i>0</i>					



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**Discipline : Chemical Engineering and Processing**

**Major: Biomass Conversion Technology & Biorefinery**

**Minimum credits: 136 Credits**

**Minimum GPA: 2.0**

No	Module	English subjects	Credits	Total Number	Theory	Practice	Internship	Project	Thesis	Year	SM	Prior study	Prerequisite	Concurrent
<b>3. Specialized knowledge:</b>														
<b>Required subjects</b>														
1	217212	Process Engineering Laboratory	1	30	0	30	0	0	0	3	2			217223
2	217215	Reaction Engineering	2	30	30	0	0	0	0	3	2	217111 217109		
3	217223	Chemical Separation Process	3	60	30	30	0	0	0	3	2	217204		
4	217229	Chemical Separation Process 2	2	30	30	0	0	0	0	3	2			
5	217607	Introduction to Biosystem Engineering	2	30	30	0	0	0	0	3	2	217303		
6	217915	Engineering Design Project	5	135	15	0	0	120	0	3	2	217202		217223 217215
7	217903	Practical Work in Industry	1	30	0	0	30	0	0	3	2	217202		
8	217909	Technical Seminar	1	30	0	30	0	0	0	3	2			
9	217216	Catalyst Technology	2	30	30	0	0	0	0	4	1	217109 217111		
10	217814	Enzyme Technology	3	60	30	30	0	0	0	4	1	217301		
11	217610	Biofuels Technology	3	60	30	30	0	0	0	4	1	217504		
12	217421	Cosmetic Technology	3	60	30	30	0	0	0	4	2			
<i>Total</i>			<i>24</i>	<i>495</i>	<i>225</i>	<i>210</i>	<i>30</i>	<i>120</i>	<i>0</i>					
<b>Elective subject - completed 0301 - accumulated at least 2 credits : 19 credits</b>														
1	217219	Surfactant	2	30	30	0	0	0	0	3	2	202301		
2	217225	Applied Membrane Technology	2	38	23	15	0	0	0	3	2	217204		



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No	Module	English subjects	Credits	Total Number	Theory	Practice	Internship	Project	Thesis	Year	SM	Prior study	Prerequisite	Concurrent
3	217305	Analysis of Residues and Toxic In Agriculture Products	2	45	15	30	0	0	0	3	2			
4	217603	Packaging Technology	2	30	30	0	0	0	0	3	2			
5	217228	Modelling and Optimization	3	60	30	30	0	0	0	4	1			
6	217416	Polymer and Biopolymer	3	52	38	14	0	0	0	4	1	217209		
7	217217	Chemical Plant Design	2	45	15	30	0	0	0	4	1	217204 217202 217215		
8	217218	Machine and Equipment in Chemical Industry	2	30	30	0	0	0	0	4	1	217204		
9	217414	Quality Management for Chemical Plants	2	30	30	0	0	0	0	4	1			
10	217418	Applied Colloid	3	60	30	30	0	0	0	4	1	217301		
11	217612	Natural Pharmaceuticals	3	60	30	30	0	0	0	4	1	217303		
12	217611	Corrosion Metals and Materials	3	60	30	30	0	0	0	4	1	202301		
13	217417	Rubber Technology	3	60	30	30	0	0	0	4	1	217209		
14	217506	Technology of Aromatic Chemicals	2	30	30	0	0	0	0	4	1	217303		
15	217803	Biogas Technology	3	60	30	30	0	0	0	4	1	217204 217304		
16	217804	Gasification and pyrolysis	3	60	30	30	0	0	0	4	1	217111 217109 217204		
17	217806	Bioinstrumentation	2	30	30	0	0	0	0	4	1	217211		
18	217809	Biolubricant	3	60	30	30	0	0	0	4	1			
19	217916	Management basic	2	30	30	0	0	0	0	4	1			
20	217920	ISO Laboratory	2	60	30	30	0	0	0	4	1			
21	217810	Biodegradable materials	3	60	30	30	0	0	0	4	1			
<b>Total</b>			<b>52</b>	<b>960</b>	<b>601</b>	<b>359</b>	<b>0</b>	<b>0</b>	<b>0</b>					



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<b>Elective subject - completed 0302 - accumulated at least 2 credits : 10 credits</b>														
1	217907	Research Project	12	0	0	0	0	0	180	4	2			
2	217908	Minor Research project	6	0	0	0	0	90	0	4	2			
<i>Total</i>			<i>18</i>	<i>270</i>	<i>0</i>	<i>0</i>	<i>0</i>	<i>90</i>	<i>180</i>					

*Total credits of required subjects: 110 credits*

*Total credits of elective subjects: 48 credits*

(\*) Compulsary modules, students have to pass them, however they are not accounted in the cumulative overall GPA.

**Graduation Methods:**

1.Thesis (12 credits)

2.Essay (6 credits) + completion of 6 credits of elective subjects 0301

**Note: In addition to the above 136 credits, students must meet the output criteria of Foreign Language and Informatics in accordance with the regulations of the university.**

Ho Chi Minh city, November 11 - 2020

Nong Lam University - Ho Chi Minh City

Academic Affairs Department

Dean of Faculty of Chemical Engineering and Processing