TRAINING PROGRAM FRAMEWORK – BACHELOR OF PHARMACEUTICAL CHEMISTRY

Program code: 7720203 | Year: 2025

No.	Course Code	Curriculum Component / Course Title	Credits	Lecture	Lab	Tutorial	Project	Internship	Semester	Prior Course	Prerequisite
9.1		General Education									
9.1.1		Social Sciences and Humanities	19								
9.1.1.1		Compulsory Courses	15								
1	LP6010	Marxist–Leninist Philosophy	3.0	3.0	0.0	0.0	0.0	0.0	1		
2	LP6025	Marxist–Leninist Political Economy	2.0	2.0	0.0	0.0	0.0	0.0	2	LP6024	
3	LP6026	Scientific Socialism	2.0	2.0	0.0	0.0	0.0	0.0	2	LP6024	
4	LP6027	History of the Communist Party of Vietnam	2.0	2.0	0.0	0.0	0.0	0.0	4		
5	LP6022	Ho Chi Minh Thought	2.0	2.0	0.0	0.0	0.0	0.0	3		
6	LP6021	Introduction to Law	2.0	2.0	0.0	0.0	0.0	0.0	4		
7	BS6046	Intercultural Communication	2.0	2.0	0.0	0.0	0.0	0.0	7		
9.1.1.2		Electives (select one course from Group 1 and one from Group 2)	4								
Tc1		Group 1									
8	BS6047	Introduction to Scientific Research	2.0	2.0	0.0	0.0	0.0	0.0	7		
9	SE6257	Project Management	2.0	2.0	0.0	0.0	0.0	0.0	7		
10	BS6048	Labor Relations and Employment	2.0	2.0	0.0	0.0	0.0	0.0	7		
11	BS6049	Humans and the Environment	2.0	2.0	0.0	0.0	0.0	0.0	7		
12	SE6218	Principles of Economics	2.0	2.0	0.0	0.0	0.0	0.0	7		
13	SM6186	Professional Work Practices	2.0	2.0	0.0	0.0	0.0	0.0	7		
Tc2		Group 2									
	BS6050	Introduction to Music	2.0	2.0	0.0	0.0	0.0	0.0	7		
	BS6051	Introduction to Art Studies	2.0	2.0	0.0	0.0	0.0	0.0	7		
	BS6052	Introduction to Fine Arts	2.0	2.0	0.0	0.0	0.0	0.0	7	LP6025	
9.1.2		Select one of five foreign-language curricula	10	10	0	0	0	0			
		Chinese Language Curriculum									
	SL6347	Chinese 1	5.0	5.0	0.0	0.0	0.0	0.0	3		
	SL6348	Chinese 2	5.0	5.0	0.0	0.0	0.0	0.0	4		
		Korean Language Curriculum									
	SL6351	Korean 1	5.0	5.0	0.0	0.0	0.0	0.0	3		
	SL6352	Korean 2	5.0	5.0	0.0	0.0	0.0	0.0	4		
		Japanese Language Curriculum									
	SL6349	Japanese 1	5.0	5.0	0.0	0.0	0.0	0.0	3		
	SL6350	Japanese 2	5.0	5.0	0.0	0.0	0.0	0.0	4		
		English Language Curriculum									
	SL6579	English for Chemical Engineering Technology 1	5.0	5.0	0.0	0.0	0.0	0.0	3		
	SL6580	English for Chemical Engineering Technology 2	5.0	5.0	0.0	0.0	0.0	0.0	4		

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		German Language Curriculum									
	FL6582	German 1	5.0	5.0	0.0	0.0	0.0	0.0	3		
	FL6583	German 2	5.0	5.0	0.0	0.0	0.0	0.0	4		
9.1.3		Natural Sciences	20								
9.1.3.1		Compulsory Courses	15								
	BS6002	Calculus	3.0	3.0	0.0	0.0	0.0	0.0	1		
	CT6001	General Chemistry	3.0	2.0	1.0	0.0	0.0	0.0	1		
	BS6027	General Physics	3.0	2.0	1.0	0.0	0.0	0.0	1		
	BS6037	Linear Algebra	3.0	3.0	0.0	0.0	0.0	0.0	2		
	SC6201	Digital Competency Development	3.0	3.0	0.0	0.0	0.0	0.0	7		
9.1.3.2		Elective Courses	5								
	BS6032	Numerical Methods	2.0	2.0	0.0	0.0	0.0	0.0	2		
	BS6004	Engineering Mathematics	3.0	3.0	0.0	0.0	0.0	0.0	2		
	BS6012	Probability Theory	2.0	2.0	0.0	0.0	0.0	0.0	2		
	CT6197	General Biology	3.0	2.0	1.0	0.0	0.0	0.0	2		
9.1.4		National Defense and Security Education	8,5	5,0	3,5	0,0	0,0	0,0	1		
		In accordance with Circular No. 05/2020/TT-BGDDT dated 18 March 2020	8.5	5.0	3.5	0.0	0.0	0.0			
9.1.5		Physical Education	4,0	0,0	4,0	0,0	0,0	0,0	1,2,3		
		In accordance with current regulations of Hanoi University of Industry	4.0	0.0	4.0	0.0	0.0	0.0	1,2,3		
9.2		Professional Education									
9.2.1		Foundations of the Field	9								
	SM6050	Engineering Drawing	3.0	3.0	0.0	0.0	0.0	0.0	4		
	SEE6164	Electrical and Electronic Engineering	3.0	2.0	1.0	0.0	0.0	0.0	5		
	CT6108	Introduction to Engineering	3.0	2.0	0.0	1.0	0.0	0.0	1		
9.2.2		Foundations of the Discipline Group	10								
	CT6255	Organic Chemistry	3.0	2.0	1.0	0.0	0.0	0.0	3		
	CT6257	Physical Chemistry	3.0	3.0	0.0	0.0	0.0	0.0	2		
	CT6386	Physical Chemistry Laboratory	1.0	0.0	1.0	0.0	0.0	0.0	2		
	CT6256	Analytical Chemistry	3.0	2.0	1.0	0.0	0.0	0.0	3		
9.2.3		Discipline Foundations	20								
9.2.3.1		Compulsory Courses	16								
	CT6414	Biochemistry	2.0	2.0	0.0	0.0	0.0	0.0	3		
	CT6415	Medicinal Chemistry	2.0	2.0	0.0	0.0	0.0	0.0	4		
	CT6412	Chemical Engineering Processes and Equipment	3.0	3.0	0.0	0.0	0.0	0.0	3		
	CT6402	Chemical Engineering Processes and Equipment Laboratory	2.0	0.0	2.0	0.0	0.0	0.0	3		
	CT6319	Fundamentals of Pharmaceutical Formulation Technology	2.0	2.0	0.0	0.0	0.0	0.0	4		
	CT6277	Course Project in Chemical Engineering Processes and Equipment	1.0	0.0	0.0	0.0	1.0	0.0	4		
	CT6413	Industrial Observation Practicum	1.0	0.0	0.0	0.0	0.0	1.0	3		
	CT6268	Instrumental Analytical Methods in Pharmaceutical Chemistry	3.0	2.0	1.0	0.0	0.0	0.0	5		

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9.2.3.2		Elective Courses	4								
	CT6323	Pharmacokinetics	2.0	2.0	0.0	0.0	0.0	0.0	4		
	CT6352	Catalysis Engineering	2.0	2.0	0.0	0.0	0.0	0.0	4		
	CT6278	Pharmacology	2.0	2.0	0.0	0.0	0.0	0.0	4		
	CT6423	Functional Foods	2.0	2.0	0.0	0.0	0.0	0.0	4		
9.2.4		Specialized Courses									
9.2.4.1		Compulsory Courses	20								
	CT6418	Synthesis of Pharmaceutical Compounds	2.0	2.0	0.0	0.0	0.0	0.0	5		
	CT6419	Pharmaceutical Compound Synthesis Laboratory	2.0	0.0	2.0	0.0	0.0	0.0	5		
	CT6266	Pharmacognosy	3.0	2.0	1.0	0.0	0.0	0.0	6		CT6255
	CT6424	Good Manufacturing Practice and Good Laboratory Practice (GMP and GLP)	2.0	2.0	0.0	0.0	0.0	0.0	6		CT6319
	CT6335	Extraction and Purification Technology for Organic Compounds	2.0	2.0	0.0	0.0	0.0	0.0	6		
	CT6302	Chemical Technology of Essential Oils, Fragrances, and Cosmetics	2.0	2.0	0.0	0.0	0.0	0.0	6		CT6001
	CT6267	Cosmetic Chemistry Laboratory	1.0	0.0	1.0	0.0	0.0	0.0	6		CT6256
	CT6417	Technological Processes in Pharmaceutical Chemical Synthesis	2.0	2.0	0.0	0.0	0.0	0.0	5		CT6412
	CT6421	Nanotechnology and Its Applications in Pharmaceutical Manufacturing	2.0	2.0	0.0	0.0	0.0	0.0	6		CT6257
	CT6420	Pharmaceutical Chemistry Course Project	2.0	0.0	0.0	0.0	2.0	0.0	7		CT6415, CT6266
9.2.4.2		Elective Courses	10								
	CT6373	Methods for Structural Elucidation of Organic Compounds	2.0	2.0	0.0	0.0	0.0	0.0	7		
	CT6335	Heterocyclic Chemistry	2.0	2.0	0.0	0.0	0.0	0.0	6		
	CT6287	Surfactant Technology	2.0	2.0	0.0	0.0	0.0	0.0	5		
	CT6341	Pharmaceutical Quality Testing	2.0	2.0	0.0	0.0	0.0	0.0	6		
	CT6406	Biomedical Polymeric Materials	2.0	2.0	0.0	0.0	0.0	0.0	7		
	CT6329	Toxicology	2.0	2.0	0.0	0.0	0.0	0.0	6		
	CT6422	Pharmaceutical Management and Economics	2.0	2.0	0.0	0.0	0.0	0.0	6		
	CT6333	Agrochemical Pesticides	2.0	2.0	0.0	0.0	0.0	0.0	5		
	CT6416	Natural Products Chemistry	2.0	2.0	0.0	0.0	0.0	0.0	5		
	CT6350	Reaction Engineering	2.0	2.0	0.0	0.0	0.0	0.0	5		
9.3		Free Electives	2	2	0	0	0	0			
9.3.1		Compulsory Courses	2	2	0	0	0	0			
	SE6209	Innovation and Entrepreneurial Mindset	2	2	0	0	0	0			
9.3.2		Electives (select one of five foreign-language curricula)	0								
		Chinese Language Curriculum									
	FL6560	Chinese 1	5.0	5.0	5.0	0.0	0.0	0.0	1		
	FL6561	Chinese 2	5.0	5.0	5.0	0.0	0.0	0.0	2		
		Korean Language Curriculum									
	FL6564	Korean 1	5.0	5.0	5.0	0.0	0.0	0.0	1		
	FL6565	Korean 2	5.0	5.0	5.0	0.0	0.0	0.0	2		
		Japanese Language Curriculum									

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	FL6562	Japanese 1	5.0	5.0	5.0	0.0	0.0	0.0	1		
	FL6563	Japanese 2	5.0	5.0	5.0	0.0	0.0	0.0	2		
		German Language Curriculum									
	FL6580	German 1	5.0	5.0	5.0	0.0	0.0	0.0	1		
	FL6581	German 2	5.0	5.0	5.0	0.0	0.0	0.0	2		
		English Language Curriculum									
	FL6578	Basic Chemistry English 1	5.0	5.0	5.0	0.0	0.0	0.0	1		
	FL6579	Basic Chemistry English 2	5.0	5.0	5.0	0.0	0.0	0.0	2		
9.4		Industrial Internship and Graduation Project/Thesis	15	0	0	0	8	7			
	CT6269	Industrial Internship	7	0,0	0,0	0,0	0,0	7,0	8	CT6413	
	CT6270	Graduation Project/Thesis	8	0,0	0,0	0,0	8,0	0,0	8		CT6269