

**National Technical University of Ukraine**

**"Kyiv Polytechnic Institute"**

Department of Machines and Apparatus for Chemical and Oil Refining Production

**APPROVED BY**

Head of Department of  
Machines and Apparatus for Chemical and  
Oil Refining Production

\_\_\_\_\_ Y.M. Korniyenko

16 September 2015

## **INDIVIDUAL STUDY PLAN**

**specialty** 8.05050315 “Equipment of Chemical Production and Building Material Plants”

**specialization** “Machines and Apparatus for Chemical and Oil Refining Production”

**Group LN-51m**

Nataliia Stolitnia

Scientific advisor: Senior lecturer at the Department of Machines and Apparatus for  
Chemical and Oil Refining Production, Candidate of Engineering Sciences B.Y. Tselen

Theme of Master Thesis:

“Investigation of changes in physical and chemical properties of water systems due to  
processing method discrete input pulse energy (DIVE)”

Kyiv 2015

## Implementation of curriculum for a Master degree

<i>Nº</i>	<i>Course</i>	<i>ECTS credits (hours)</i>	<i>Reporting form</i>	<i>Note</i>
<b>Autumn semester</b>				
1.	Civil Defence	1	Graded credit	
2.	Intellectual Property	1	Credit	
3.	Design Engineering Equipment – 1	7	Exam	
4.	Academic Year Project within the Subject: Design Engineering Equipment.	1,5	Course work	
5.	Foreign Language for Specific Purposes -1	1,5	–	
6.	Computer Design of Chemical Manufactures Equipment	2	Credit	
7.	Mounting and Maintenance of Chemical Manufactures Equipment	2,5	Credit	
8.	Automation of Productive Processes – 1. Local System of Automated Regulation	4	Graded credit	
9.	Fundamentals of Marketing	1,5	Credit	
10.	Equipment for the Production and Processing of Polymers - 1. Equipment of production of polymers	4	Exam	
11.	Synthesis and Separation Equipment in the Chemical Industry-1. Equipment of membrane processes of division	4	Exam	
<b>Spring semester</b>				
1.	Specialized Labor Safety	1	Graded credit	
2.	Factors of Successful Employment According to Specialization	1	Credit	
3.	Fundamentals of Scientific Researches	2	Credit	
4.	Foreign Language for Specific Purposes - 1	1,5	Credit	
5.	Higher School Pedagogy	1,5	Credit	
6.	Transfer Processes white Equipping of Chemical Manufactures-1. Processes of oil-processing productions	3	Credit	
7.	Academic Year Project within the Subject -1: Processes of oil-processing productions	1,5	Course work	
8.	Manufacturing Technology, Reliability and Durability -1. Design of processes of transfer	5	Exam	
9.	Automation of Productive Processes – 2. Automated Process Control System	4	Exam	
10.	Processes of Deep Refrigeration	4,5	Credit	
11.	Equipment for the Production and Processing of Polymers - 2. Extrusion methods of processing of polymers	3,5	Exam	
12.	Synthesis and Separation Equipment in the Chemical Industry-2. An equipment of synthesis is in chemical industry	3,5	Exam	

## Research work

1.	Analysis of literature and patent sources for the study of changes in physical and chemical properties of water systems. Formulation of problems of theoretical and experimental studies. Preparing a patent application.	Chapter of Master Thesis, patent application	15.10.15
2.	Training materials on the research for publication of abstracts and participation in the conference.	Theses	15.11.15
3.	Development of physical and mathematical-empirical models of processing water systems means discrete input pulse energy.	Chapter of Master Thesis	30.12.15
4.	Choice and justification of methods for solving mathematical and empirical models.	Chapter of Master Thesis	28.02.16
5.	Preparation of materials to research to be published articles in professional journals and abstracts to publications and participation in the conference.	Articles	15.03.16
6.	Creation of a laboratory setting to study changes in physical and chemical properties of water systems.	Chapter of Master Thesis	15.04.16
7.	Creation of a laboratory setting to study changes in physical and chemical properties of water systems.	Theses	25.04.16
8.	Carrying out laboratory tests.	Chapter of Master Thesis	30.05.16

## III Pedagogical and educational work

1.	Assistance in SRWS for section " Processes and apparatus for chemical and oil refining production "	Report	During study
----	---	--------	--------------

Scientific advisor:

Senior lecturer at the

Department of Machines and

Apparatus for Chemical and

Oil Refining Production, Cand. Engr.

B.Y. Tselen

Master student

N.V. Stolitnia

Approved at the Department of  
Machines and Apparatus for Chemical and  
Oil Refining Production meeting  
Protocol № 2 from 16 September 2015