

**National Technical University of Ukraine**

**"Kyiv Polytechnic Institute"**

Department of Machines and Apparatus for Chemical and Oil Refining Production

**A P P R O V E D**

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

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

September 16, 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**

Serhii Turko

**for 2015/2016 academic year**

Scientific adviser: Head of at the Department of Machines and Apparatus for Chemical and Oil Refining Production, Doctor of Engineering Sciences, Professor Y.M. Korniyenko

Theme of Master Thesis:

"The process of granule formation organic fertilizers modified sunflower ash"

Kyiv 2015

## Implementation of curriculum for a master

<i>№</i>	<i>Name of credit modules</i>	<i>Number of ECTS credits</i>	<i>Type reporting</i>	<i>Note</i>
<b>Осінній семестр</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 project	
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>Весняний семестр</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 while 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 project	
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 on granulation process organic fertilizers modified sunflower ash. Justification goals and objectives of the study. Preparing a patent application.	Thesis. An application for a patent.	15.10.15
2.	According to the results of the analytical review of literature sources to prepare abstracts for scientific and technical conference.	Theses	15.11.15
3.	Development of a physical model of the process of dehydration and granulation saturated solution of nitrate of ammonium sulfate with impurities humic substances, vegetable ash and mineral components. Design and development of a mathematical model of the process of dehydration and granulation of organic fertilizers modified sunflower ash.	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 in professional journals	15.03.16
6.	Modernization of the laboratory setting to study the granulation process organic fertilizers modified sunflower ash.	Chapter of Master Thesis	15.04.16
7.	Training materials on the research for publication of abstracts and participation in the conference.	Theses	25.04.16
8.	Conducting complex research and experimental determination of kinetics parameters granulation process organic fertilizers modified sunflower ash.	Chapter of Master Thesis	30.05.16

## Pedagogical and educational work

1.	Assistance SRWS in section "Processes and equipment of chemical and oil industries"		During study
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## Scientific adviser

Head of at the Department of Machines  
and Apparatus for Chemical and  
Oil Refining Production,  
Doctor of Engineering Science, professor

Y.M. Korniyenko

Masters

S.A. Turko

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