

*Speciality:*    **Foundry of Ferrous and Non-ferrous Metals**

**Degree Structure for Bachelor of Foundry**

**First Year**

First Semester		Second Semester	
Course Title	Credit	Course Title	Credit
History of Ukraine	3	Ukrainian Language	2
Foreign Language-1. Communications in General Education and Technical Fields	1,5	Foreign Language-1. Communications in General Education and Technical Fields	1,5
Chemistry 1. General Chemistry	7	Theoretical and Applied Mechanics 1. Theoretical Mechanics	3
Higher Mathematics 1. Linear Algebra and Differential Equations	8	Computer Science - 2. Numerical Methods	1,5
Descriptive Geometry-1. Image	3,5	Physics-1. Mechanics, Thermal Effects, Electromagnetism	7,5
Introduction to Specialty	1	Higher Mathematics-2. Integral Calculus Differential Equations	5
Computer Science 1. Programming	6	Chemistry-2. Chemistry of Elements. Organic Chemistry	4
		Computer Science-3. Laboratory Practical Training	2,5
		Descriptive Geometry-2. Drawing	2
		Descriptive Geometry-3. Course Project	1
		Hydraulics 1. Basics of Hydraulics	1,5
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>31,5</b>

## Second Year

First Semester		Second Semester	
Course Title	Credit	Course Title	Credit
Philosophy-1. History of Philosophy	3	Foreign Language-2. Communications Implementation on Occupation	1,5
Foreign Language-2. Communications Implementation on Occupation	1,5	Ecology	2
Physical Chemistry	5,5	Metal Science and Heat Treatment-1. Metal Science	5
Technology of receipt of primary materials for casting production	2,5	Theoretical and Applied Mechanics 3. Course Project	1,5
Higher Mathematics 3. Theory of Probabilities	5	Electric Engineering and Electronics	5,5
Physics-2. Optics, Molecular and Nuclear Physics	5	Metal Science and Heat Treatment-2. Heat Treatment	2
Theoretical and Applied Mechanics 2. Strength of Materials and Machines Details	4	Theory and Technology of Metallurgical Production	6
		Physical and Structural Research Methods	3
Elective Courses			
Computer Programming	1	Materials Structure, Properties and Treatment-2. Metals Treatment	1,5
Theoretical and Applied Mechanics-5. Computer design of machines and mechanisms	1	Psychology	2
Materials Structure, Properties and Treatment-1. Crystallography and Mineralogy	1,5	Materials Structure, Properties and Treatment-3. Corrosion and Metal Protection	1,5
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>31,5</b>

### Elective Courses:

Computer User	2	Materials Structure, Properties and Treatment-2. Metals Treatment	1,5
Materials Structure, Properties and Treatment-1. Crystallography and Mineralogy	1,5	Materials Structure, Properties and Treatment-3. Corrosion and Metal Protection	1,5
		Psychology	2
<b>Total</b>	<b>3,5</b>	<b>Total</b>	<b>3</b>

### Third Year

First Semester		Second Semester	
Course Title	Credit	Course Title	Credit
Foreign Language-3. Foreign Language of the Professional Direction	1,5	Foreign Language-3. Foreign Language of the Professional Direction	1,5
Economic Theory	2	History of the Ukrainian culture	2
Life Safety and Labour Protection	1,5	Technology of Foundry Molds	5
Foundry Furnaces and Driers	6	Equipment of Molding Shops-2. Technological, auxiliary, transporting Equipment and Machines Drives	5
Theoretical Fundamentals of Foundry	6	Equipment of Molding Shops-3. Course Project	1,5
Theoretical Fundamentals of Shaping	5	Hydraulics of Foundry Processes	2
Technical measurings and treatments of experimental information	1,5	Technical measurings and treatments of experimental information	2,5
Equipment of Molding Shops-1. Machines and Equipment	4,5	Industrial Practical Training	4,5
		Economy of organization and planning of production	4
Elective Courses			
Logic	2	Jurisprudence	2
		Artistic and Jewelry Casting-1. History of Artistic Casting	1,5
		Artistic and Jewelry Casting-2. Fine Art	1,5
		Technologies in Foundry-1. Technologies and Equipment of Special Metallurgy in Foundry	1,5
		Technologies in Foundry-2. New Materials	1,5
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>36</b>

#### Elective Courses:

Logic	2	Jurisprudence	2
		Artistic and Jewelry Casting-1. History of Artistic Casting	1,5
		Artistic and Jewelry Casting-2. Fine Art	1,5
		Production Processes of Casting-1. Prosthetic and Technical Material Science	1,5
		Production Processes of Casting -2. New Materials	1,5
<b>Total</b>	<b>2</b>	<b>Total</b>	<b>8</b>

### Fourth Year

First Semester		Second Semester	
Course Title	Credit	Course Title	Credit
Foreign Language of the Professional Direction	1,5	Ukrainian language-2	1
Technology of Foundry Molds. Course Project	1,5	Labour protection	1,5
Production of foundings from cast-iron	6,5	Control of quality of foundings	3
Production of foundings with steel	5,5	Production of foundings from the coloured metals	4,5
Automation of production processes	2,5	Specialtypes of casting	5
Planning and production of rigging	3	Pregraduation Practical Training	4,5
Sociology	2	Graduation Thesis Projecting	9
Elective Courses			
Metallurgy of Noble Metals	2,5		
Technologies in Foundry -4: Ladle treatment of fusions	2		
Technologies in Foundry -5: Design of processes on calculation device	3		
<b>Total</b>	<b>30</b>	<b>Total</b>	<b>28,5</b>

#### Elective Courses:

Metallurgy of Noble Metals	2,5		
Production Processes of Casting -4: Ladle treatment of fusions	2		
Production Processes of Casting -5: Design of processes on calculation device	3		
<b>Total</b>	<b>7,5</b>	<b>Total</b>	<b>8</b>