

Year	2011/2012
Faculty (institute)	Welding
Department	Welding Industrial Systems
Field of study	6.050504 Welding
Speciality	Welding Industrial Systems
Degree	bachelor
Qualification level	bachelor

First Year

First Semester		Second Semester	
Title	Credits	Title	Credits
Foreign language	1,5	Foreign language	1,5
History of Ukraine	3	Ukrainian language: Professional communications	2
Mathematics - 1: Analytic geometry and differential calculus	7	Mathematics - 2: Integral calculus and differential equations	5
Chemistry	5	Physics - 2: Electricity and magnetics	4
Physics - 1: Mechanics and molecular physics	6	Engineering and computer graphics - 2: Engineering graphics	2
Engineering and computer graphics - 1: Descriptive geometry	3	Information and computer science - 2: Computer science software	3
Information and computer science - 1: Computer science hardware	3		
		Technology of metal production and physical metallurgy	3
		Engineering mechanics	5
		Surface physical-chemical processes	3
Methods of data processing	2		
Total	30,5	Total	28,5

Second Year

First Semester		Second Semester	
Title	Credit	Title	Credit
Foreign language	1,5	Foreign language	1,5
Philosophy	3		
Mathematics - 3: Numerical and functional series	4	Electrical engineering - 2: Electronic and circuit engineering	2
Engineering and computer graphics - 3: Computer graphics	1,5	Strength of materials - 2: Methods of strength analysis, stiffness, steadyness and shift calculation	2,5
Electrical engineering - 1: Electric and magnetic circuits	4	Ecology	2
Strength of materials - 1: Theory of mode of deformation	4		
Welding physics - 1: Welding heat sources and thermal processes	4,5	Welding physics - 2: Welding physical-chemical and metallurgical processes	3
Machine parts - 1: Interchangeability, standardization and technical measurement	1,5	Fusion welding technology and equipment - 1: Fusion welding processes and equipment	3
		Welding power supplies	3,5
		Gas-thermal material treatment	3,5
		Fundamentals of sputtering and welding deposition - 1: Fundamentals of welding deposition	4
Physical metallurgy and heat treatment of welded joints	5	Triboengineering	5
Fundamentals of CAD systems	3	Psychology	2
Total	32	Total	32

Third Year

First Semester		Second Semester	
Title	Credits	Title	Credits
		History of Ukrainian culture	2
Machine parts - 2: Machine parts	5,5	Machine parts - 1: Machine parts	1
Fusion welding technology and equipment - 2: Fundamentals of constructional materials' welding	4	Pressure welding technology and equipment	3,5
Fundamentals of sputtering and welding deposition - 2: Fundamentals of sputtering	4	Work practice	4,5
Safety of labour and life activities	1,5		
Welding tensions and deformations	4		
Economics of industrial production planning	3	Economics of industrial production planning	3
Foreign language	2	Foreign language	2
PC application for applied tasks solving	2,5	Mechanical welding equipment	3
History of science and technics	2	Technical means of automation	5
Electric machines	3,5	Theory of automatical monitoring	5
		Science of law	2
		Computer-aided design of welding industrial systems	3
Total	32	Total	34

Fourth Year

First Semester		Second Semester	
Title	Credits	Title	Credits
Political science	1,5		
Pressure welding technology and equipment	1	Pregraduation practice	4,5
Economics and industrial engineering of welding production	3	Diploma project (work) performance	9
Quality control	4	Technological equipment	1
Automated control in welding	4	Designing of technical means of automation of welding industrial systems	3,5
Design of construction units and devices of welding industrial systems	5	Microprocessor-based control systems	4
Pressure welding machines and systems	4	Welding industrial systems' production	2
Technological equipment	4	Electrotechnical materials	2
Fundamentals of probability theory	2		
Total	28,5	Total	26

- humanities, social and economical courses
- mathematical, natural and scientific courses
- professional and practical courses
- elective courses