

Programming of Web-Systems (PWebS)

Skills:

- design, configuration and professional use of client-server systems;
- programming of web systems with different orientation and complexity;
- creation of optimal systems IT project control;
- administration and monitoring of computer networks and web systems databases;
- processing of graphical information and the synthesis of virtual and augmented reality;
- design of organizational and technological informational control systems of web systems.

MS Windows
Visual Lisp
Information Technologies
Programming of Web-Systems
AnyLogic
Computer Sciences
MathLab
ITS
Maple
MathCAD
Programming of Mobile Devices
Java
C#
Information Technologies Design
Unigraphics
Linux
AutoCAD
Solid Works
КОМПАС
3D-Modelling



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**NATIONAL
METALLURGICAL
ACADEMY OF UKRAINE**

**Faculty of Computer
Systems, Power
Industry and
Automation**



**COMPUTER
SCIENCES**

**Department of
Information
Technologies and
Systems**

Department of Information Technologies and Systems graduates in the direction of 12 — Information Technologies on specialty 122 — Computer Sciences.

Bachelor in Computer Sciences — 4 years of training term.

Master in Computer Sciences — 1.5 years of training term.

Specializations for master:

- Information Control Systems and Technologies;
- Information Technologies Design;
- Programming of Embedded and Mobile devices;
- Programming of Web-Systems.

Information Control Systems and Technologies (ICS&T)

Skills:

- the development and professional use of computer software and computerized systems of wide class and different purposes;
- software development of APCS and ACS of PP, intellectual decision support systems, aggregated real-time systems and queuing systems;
- computer processing of audio and video information, time series in industry and the economy, in the field of

nondestructive testing with application of artificial neural (neuro-fuzzy) and immune systems in metallurgy, engineering, chemical and aerospace industries, in the economy and management;

- network software for the development and implementation of Internet/Intranet applications, electronic document management and web technologies.

Information Technologies Design (ITD)

Skills:

- the development of modern information systems for enterprises (integration of CAD, CAM, CAE, PDM, MRP and other systems);
- electronic document management system (implementation of paperless technology of design, suitable with international standards);
- development of new and adaptation of existing systems, computer graphics, design automation for specific applications (development of software libraries, service applications and custom modules using languages C++, C#, Visual Lisp, etc., programming environments Linux, MS Windows, etc.);
- computer design of two-dimensional drawings and three-dimensional conduction modelling volumetric structures using 2D and 3D systems of automated design (AutoCAD, Solid Works, COMPASS, Unigraphics, etc.);
- automation of technological preparation of production, in particular, in the development of control programs (real-time programs) for equipment of various

classes and purposes, in particular for machine tools with numerical programming control (NPC);

- engineering analysis and mathematical modelling of technological processes; software reverse engineering and monitoring of the systems functioning, production facilities, units and machines;
- software development of integrated logistics support, interactive technical manuals, electronic operational documentation, etc.

Programming of Embedded and Mobile Devices (PEMD)

Skills:

- in the synthesis of modern microcontroller architectures, embedded and mobile devices (EMD), their history and role in the development of scientific and technical progress;
- programming microcontroller EMD;
- to develop on the basic protocols and typical schemes of connection of the EMD various microcontroller peripheral devices;
- in the analysis of examples of hardware and software implementations of IT automation technologies: control of the various actuators, processing information from sensors, etc.;
- in self-organizing processes of interaction of the EMD with a variety of digital measuring devices and microcontroller control systems;
- in the use of modern software for developing and debugging microcontroller systems EMD.