

National Technical University «Kharkov Polytechnic Institute»

Mechanical Engineering Faculty

DEPARTMENT OF "INTEGRATED TECHNOLOGIES ENGINEERING"



Training course (specialty): **131 – Applied mechanics** Specializations **131-01 Integrated Manufacturing Engineering 131-02 Tool production 131-07 Standardization, certification and product quality**

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Directs the Chair Academician of the Academy of Sciences of Higher Education of Ukraine, Honored Worker of Higher School of Ukraine, member of the American ASE / ASM Association, Honorary Doctor of the University of Miskolc (Hungary), Doctor of Technical Sciences, Professor A. Grabchenko.



The educational process at the department lead 18 teachers, including:

- 5 professors (4 doctors of sciences);
- **11** candidates of sciences;
- **2** persons without scientific degrees and titles.

The training program includes:

✓ deep *special training* (working processes high-tech additive technology (3D Printing), Reverse Engineering, precision and special equipment, diagnostics processing, 3-D modeling, and others;

✓ improved *computer based training*: an object-oriented modeling and programming languages, CAD / CAM / CAE systems (AutoCAD, SolidWorks, Power Solution, Pro-Engeneer), Internet-technologies

√improved *language training* (training in Germany, Austria, Hungary);

✓improved economic training;

✓ enhanced socio-humanitarian training.

Graduation with a degree in "Tool production" **Foreign experts** (prof. F. Lierat, prof. J. Matyas, prof. D. Schneider, prof. J. Kundrak, prof. F. Vestkemper, prof. A. Mamalis and others) lecture to our students

The best students of our chair are sent after the 3rd year - for technological practice in University of Miskolc (Hungary)

on the 4th and 5th year - on including semester training and externship at University of Magdeburg (Germany) and the University of Klagenfurt (Austria).





The technical base of the chair:

4 computer labs with latest software (CAD / CAM systems);

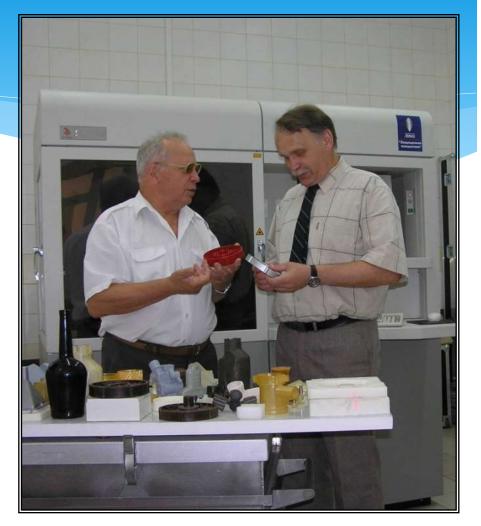
✓ 4 educational laboratory with machine tools and measuring equipment;

✓3 research laboratories: integrated technologies, physics processes of cutting and diamond tools;

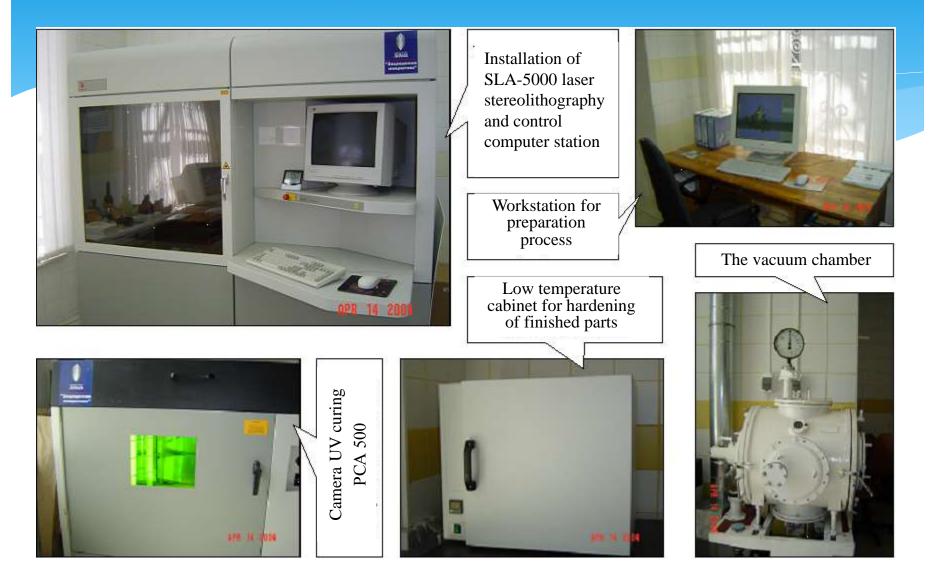
✓ the only Ukrainian high-tech center of accelerated forming products (Additive Technology - 3D Printing, Reverse Engineering).

In 2001 the Chair created an educational-scientificproduction center of integrated technologies and materials accelerated form of education-based additive manufacturing technology and combined treatment processes.

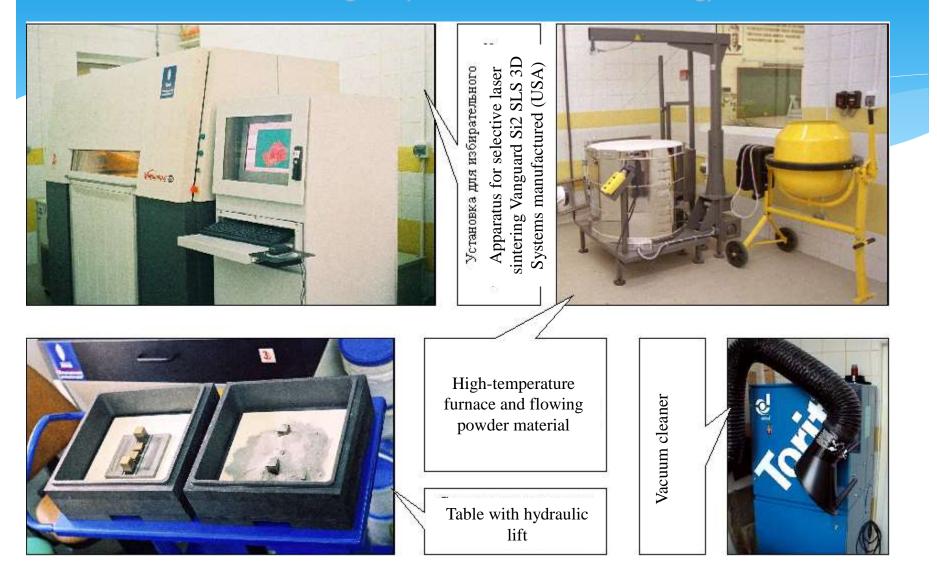
The cost of equipment Rapid Prototyping composition is 2 million dollars.



Educational-scientific-production center of integrated technologies (Additive Manufacturing)



Educational-scientific-production center of integrated technologies (Additive Manufacturing)



Employment prospects:

- Engineering factories
- Firms in manufacturing and servicing of equipment for various industrial sectors
- Scientific departments and laboratories to monitor and analyze the quality of the products, tools and equipment
- Companies and design offices for the design of tools and equipment
- Commercial firms and certification laboratory determination of the quality of products



