

**TRAINING AND RESEARCH LABORATORIES
OF THE DEPARTMENT OF DYNAMICS AND STRENGTH OF MACHINES**

«166 Д – 1» - Laboratory of polymeric materials and 3D printing

The laboratory is equipped with 3D printers for SLA and FDM printing technologies.

The following researches are carried out in the laboratory:

- study of mechanical characteristics of new materials;
- design and construction of parts and structures and production of their models using 3D printing technologies;
- calculations and checks on the strength of products.

The student scientific group "Experimental researches of new materials and biomechanical systems" works using of the equipment of laboratory, scientific researches of students of Master's and PhD educational programs are carried out.



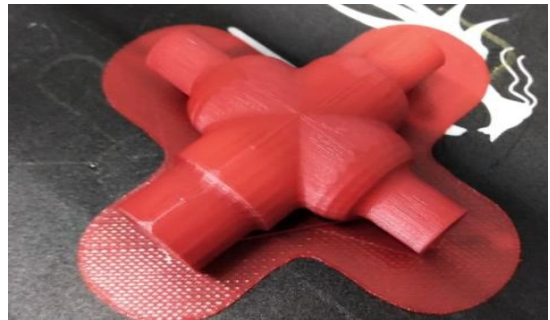
SLA (Stereolithography Apparatus) technology

(layer-by-layer formation of models from liquid photopolymer)



FDM- Fused Deposition Modeling technology

(modeling by layer-by-layer surfacing)



«166 Д – 1» - Laboratory of Biomechanics

The following researches are carried out in the laboratory:

- study of mechanical properties of bone tissues;
- modernization of implant structures and mechanical means of post-traumatic fixation of the human musculoskeletal system;
- testing of implant designs and means of fixing the human musculoskeletal system.

The student scientific group "Experimental researches of new materials and biomechanical systems" works using of the equipment of laboratory, scientific researches of students of Master's and PhD educational programs are carried out.



Study of bone properties.



Investigation of the stiffness of the hip joint



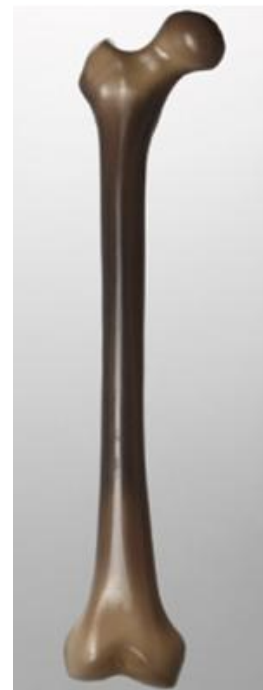
Femoral prosthesis based on a polymer truss



Testing equipment to study the reliability of fixation of bone fractures



Synthetic models for studying the strength of the femurs



«250 – 1» – Classroom and laboratory of applied mechanics

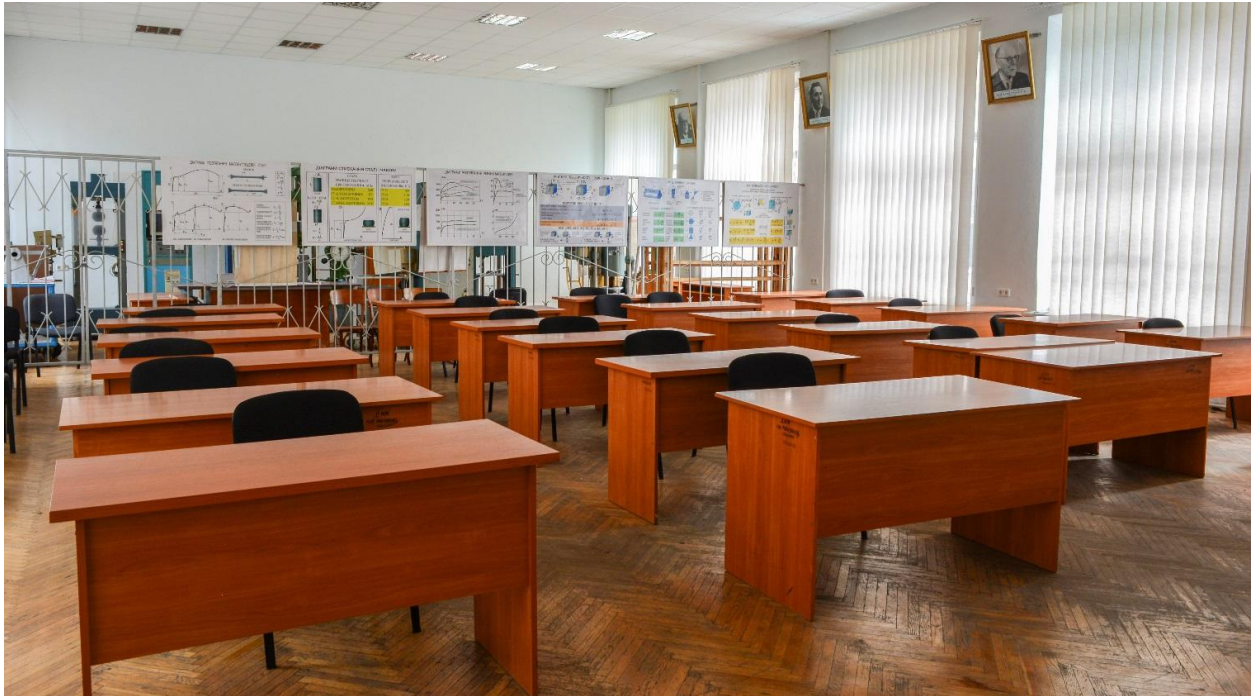
The classroom is equipped with models, equipment, samples and stands to demonstrate and study the operation of mechanisms and components of machines during conducting of practical and laboratory classes on disciplines "Theory of mechanisms and machines", "Details of machines and basics of design", "Applied Mechanics", "Technical Mechanics"



**«166 – e – 1» Educational and scientific laboratory
named after S.Tymoshenko**

**The laboratory is equipped with testing equipment and stands
for conducting of laboratory classes on disciplines
"Mechanics of materials and structures", "Applied Mechanics", "Technical Mechanics"
of bachelors educational program**

Classroom



Testing equipment and stands

