

An annotation of discipline is "Information technologies of planning and research of measuring facilities". General information:

Course has for an object to give to the students of knowledge, on methodology of constructing of typical details and mechanisms of devices on the base of the system CosmosWorks and CosmosMotion, to give basic principles of design of the power loading on details and mechanisms by means of COMPUTER and design of motion of details in a middle a mechanism by means of COMPUTER.

A course is continuation of course the "Three-dimensional constructing on COMPUTER".

During the study of course students, using the knowledge, got on the courses of "Resistance of materials", "Constructing of elements of devices and computer systems", get knowledge in relation to the analysis of details and mechanisms on a reaction on principle of work and mode of mechanisms of devices, on the substantive provisions of their theory of calculation of the  $\pi$  constructing.

In the process of study of course ability and skills to conduct the engineering analysis of elements and mechanisms are inoculated, conduct the design of behavior of object on loading, to analyse the got results, to conduct optimization of sizes of details.

## II. Content of educational material

The aim of study of course is a receipt of theoretical and practical knowledge students on questions the calculation of statics, dynamics, eigenfrequencies, to firmness and optimization, analysis of 3th measure mechanisms and cored constructions in the environment of COSMOSWorks of for of Solid Works 2011 and kinematics analysis of mechanisms in the environment of CosmosMotion.

The basic tasks of study of discipline is acquisition by the students of ability and skills to design and prospect work of mechanism to or instead of creation of model-prototype and realization of stand tests, applying a necessary programmatic vehicle (COSMOS - Works) and computing engineering.

To know:

it is a software environment of COSMOS - Works of for of SolidWorks 2011;

it is a software environment of CosmosMotion of for of SolidWorks 2011;

- to know methodology of research of work of three-dimensional model of detail and mechanism;

- able to decide the tasks of planning of elements of devices.

Able:

- to calculate the statics of details and mechanism at the action of different external factors (force, pressure, temperature and etc.);