

## **Abstract**

Course work "Problems of durability and reliability of steam boilers"  
(credit 1.11 /2)

Course work is devoted to the application of the main methods of calculation on durability and reliability, with the aim of providing the students the experience of solving problems related to design and operation of PC.

Term paper on "Calculation of the strength and reliability of elements of boiler unit taking into account loading and high temperature creep" includes calculations:

1. The calculation of the outlet chamber of steam superheater with regard to long-term strength and creep of the material
2. Strength calculation of the drum cover of the boiler taking into account progno-plastic deformations
- 3 strength analysis of steam superheater tubes considering the bending and creep of the material
- 4.Calculation of thick-walled pipes.
- 5.Computer modeling using SolidWorks and ANSYS

The graphical part includes the following drawings: header of the boiler, the superheater of the boiler.

The individuality of the course project is determined by the prototype of the boiler and output parameters of its work.