Coursework on discipline
«Mathematical models of chemical reactors»
Specialty 8.05020202
Computer-integrated technological processes and production
Vekshyn Serhii HA-51M
Subject: "Modeling two-stage adiabatic reactor dehydrogenation of ethylbenzene to form styrene"

Styrene - the most important monomer in the chemical industry. It is used in industrial synthetic rubber for styrene-butadiene rubber and latex in the plastics industry for polystyrene and styrene copolymers and paint chemical-pharmaceutical industry.

In this course project is considered in the process of obtaining styrene two-stage adiabatic reactor. The problem:

1. Studies in styrene production technological features.

2. According to the terms of reference developed a computer module in MathCad environment and created software plug-in environment Visual Basic 6 to calculate the basic parameters of two-stage adiabatic reactor. The result of the software module is the concentration of the original product, which is 0.8409 kmol/ m3. The results are also shown in graphical form which shows the concentration profiles of the components and a curve which shows the temperature variation along the reactor length.