

Mathematical modeling

Definition. **Mathematical modeling** is a looped process of creation and specification of mathematical models. The purpose of this process is to receive satisfying results within the range of a given acceptable error.

Mathematical modeling goes through the following phases:

1. Formulation of the problem.
2. Creating a mathematical model.
3. Choice or development of a numerical method.
4. Creating an algorithm.
5. Programming.
6. Receiving results from the model.
7. Modeling loop to the point of reaching satisfactory results with the real world phenomenon, experiment or modeling object.
8. Application of the model in practice.