Healthcare Logistics

Offered by: Department of Industrial Engineering and Innovation Sciences
With support of Department of Mechanical Engineering and
Department of Mathematics and Computer Science

Language: English (Dutch)

Primarily interesting for: Students Industrial Engineering, Mathematics, Mechanical Engineering, Biomedical Engineering

Prerequisites: Basic probability and calculus, modeling knowledge

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Content and composition

The healthcare industry has become one of the major industries and is still growing fast. Nowadays, many engineers find employment in hospitals and other health care institutions. This set of courses offers you an excellent introduction to this field. The first course considers information systems that support healthcare operations, the second course provides a general introduction to the decision making in healthcare logistics and detailed mathematical models enabling a proper analysis of alternatives.

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Course description

Healthcare Information Systems

Health care industry is one of the most information intensive sectors in our society. Consequently, information systems that support health care operations are advancing rapidly. They improve the operational excellence as well as the management of modern health care organizations. In this course, you learn about information technology and information management functions in health care organizations as well as current health care computing issues that health service managers face.

Healthcare Management and Modeling

In controlling processes in healthcare we have to find a balance between patient demand en care supply. In this course we develop a framework for the planning of patient logistics, where we take decisions at various levels (strategic, tactical, operational). After that, we consider the complex mathematical models that can be used to solve the planning problems. Uncertainty plays in large role in these models. We consider realistic cases from hospitals. Next to that we also consider health problems on an (inter-)national level. In the last part we consider the modelling of epidemiology. These models show the development of infectious diseases and the effect of countermeasures.