# Vak: Management & databeheer

credits: 5

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| **Vakcode** | WBVB24MAD |
| **Naam** | Management & databeheer |
| **Studiejaar** | 2025-2026 |
| **ECTS credits** | 5 |
| **Taal** | Engels |
| **Coördinator** | I.V. Houwing |
| **Werkvormen** | Onderwijs |
| **Toetsen** | Information systems - Opdracht<br>Operations Management - Opdracht |

**Leeruitkomsten**

After finishing this module the student can:

- Operationalizes the performance dimensions of a given process, determines the consequences of volume and variety characteristics for process layout, technology and job design;
- Make a correct process map, calculates a correct economic order quantity and create a correct MRP-schedule
- Recognizes process improvement methods and applies Lean Manufacturing methods
- Describe the data and document management process, the role of CAD / CAM / CAE in the design and production process;
- Describe the information flow and the production planning of a production organization;
- Describe the role and functionalities of product lifecycle management systems (PLM) within a company and apply product and data management in an industrial PLM software (Windchill);
- Describe the role and functionalities of an ERP system within a company and describe the importance, trends and elements of Industry 4.0 – Industrial Internet of Things;

**Inhoud**

Operations management is the branch of management that defines the complete production timeline of a service/ product from the input stage to the finished stage, including planning, organizing, and supervising the operations, manufacturing and production processes, and service delivery to lead to the desired goals. We will discuss the factors that are important for the design of a process. Concerning the planning and control of operations, topics include capacity management, inventory management and scheduling. Finally, several improvement methods, like Lean Manufacturing and Six Sigma are treated.

Data and data management is the backbone of a production origanisation. Within a company, information is used in various ways to achieve a working and controllable (production) process. We will learn about the different information systems. These are the systems where data related to a product, process, and business is collected in order to generate and share information within the company. In more detail: data and documentation management, product document management, product lifecycle management (PLM), Enterprise Resource Planning (ERP) systems and the Industrial Internet of Things (IIoT). This module consists of theory of information models, database systems applied in (manufacturing) companies and practical assignment within the Windchill PLM system.

**Opgenomen in opleiding(en)**

Werktuigbouwkunde

**School(s)**

Instituut voor Engineering

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