

Operations Management, ERP- and SCM-Systems

Content Overview

Strategic Planning

Operations Management
Relationship Management
Mass Customization
Process Modeling
Collaborative Planning

Operational Planning

MRP II- and ERP-Concept
Software-Systems for ERP and SCM
Customer Relationship Management
Inventory Management
Distribution Planning
Just-in-Time Concept
One-of-a-Kind Production
Process Industry

Control and Execution

Optimization and
Simulation Methods
Scheduling

Motivation

This project aims to achieve an integrated approach to Web-based teaching in the field of Production and Logistics Management. Special consideration is given to managerial and technical concepts and to related software solutions that have gained great importance worldwide as Enterprise Resource Planning (ERP) and Supply Chain Management (SCM) systems. New developments in the direction of e-Business are also covered.

Example

The screenshot displays a web-based teaching interface. On the left, there is a navigation menu with various sections. The main content area shows a supply chain diagram with 'supplier operation', 'buffer store', and 'user operation' stages. Below the diagram is a calculation tool for determining the number of batches. The tool includes input fields for parameters like 'lead time LT1', 'number of parts per container k', 'length of the statistical period TP', 'percent needed as safety factor SP', and 'number of containers per transport batch w'. A 'calculate' button is present, and the result is displayed as 'Number of batches: $n = \frac{SP \cdot TP}{k \cdot w} + (1 + SP) \cdot w$ '.

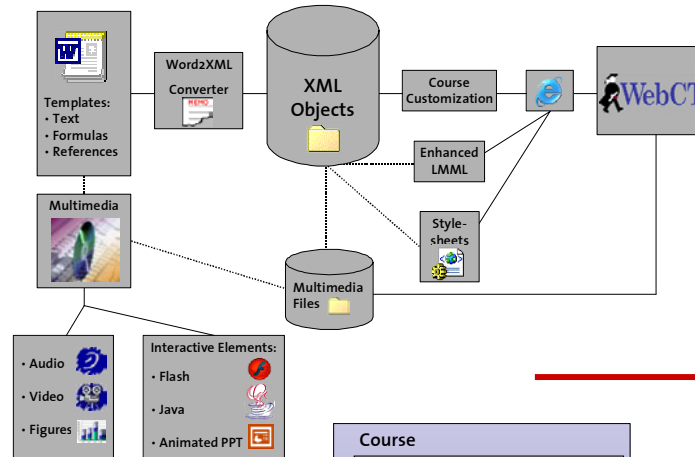
Applications

Virtual Learning Units embedded in Courses

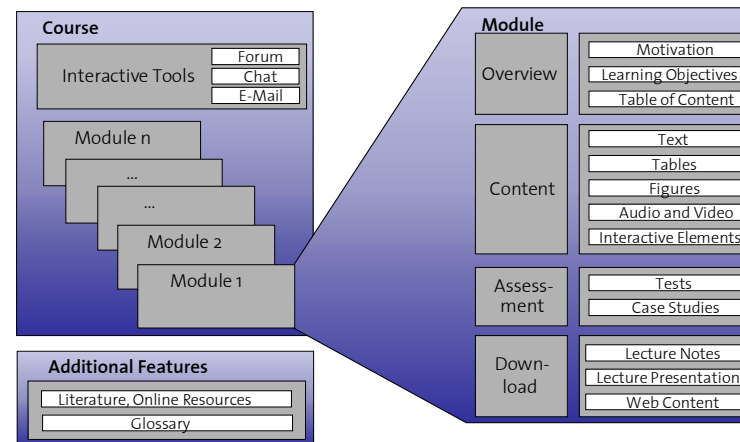
- "Logistik und operationelle Führung" at ETHZ (3 ECTS)
- "Gestion de production" at EPFL (4 ECTS)
- Learning Unit „Inventory Management“ at EPFL (1 ECTS)

- Blended Learning in Course "Logistics" at UNIBE (4.5 ECTS)
- Virtual Learning Unit "Scheduling" at UNIBE (1.5 ECTS)
- Virtual Learning Unit "ERP and Beyond" at Virtual Global University (given by UNIBE) (8 ECTS)
- Virtual Learning Unit „JIT Management,, at UAS(zpa) (1 ECTS)

Technological Approach



Structure of Modules



OPESS



Project
OPESS

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Industrial Partner
ALSTOM (CH)

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