

1. Learning Outcomes

Course Contents

The complexity of nowadays' business challenges each company's ability to process information: Large companies handle millions of transactions a day, firms cooperate over the Internet to optimize the complete supply chain, manufacturing plans are adapted to customer needs nearly in real-time, etc. These requirements call for flexible and integrated software applications that have become a critical resource in all medium-sized to large organizations: Enterprise Resource Planning Systems. This course introduces students to the topic not only by providing the required conceptual background, but also with lab sessions using a widespread software solution (Microsoft Dynamics).

Learning Outcomes

After attending this introductory course, students will be able to:

- Use the system approach to describe the functioning of a company,
- Describe the origins, list main advantages and give a classification of ERP systems,
- Give examples of standard processes of a company's primary activities in terms of physical flow, information flow and financial flow,
- Explain how ERP systems support main steps in procurement, manufacturing, sales and marketing,
- Identify the main informational items and documents exchanged during business transactions and how these are handled by an ERP system,
- Compare different replenishment systems such as order cycle and order point policies, and explain simple optimization approaches,
- Develop bill of materials and routing for a simple manufactured product,
- Deduce total execution time, slack times and critical path for a given production order using PERT diagrams,
- Compare different pricing models including dynamic pricing and discounting rules,
- Analyze a business case in terms of informational work flow, compare this to the functionality of a given ERP system and deduce customization needs,
- Carry out configuration and simple customization steps to adapt the behavior of an ERP system.

Students will acquire basic proficiency in using the software Microsoft Dynamics NAV for carrying out main steps in procurement, manufacturing and sales. Additionally, students will improve their abilities to work in teams.

2. Course Description and Assessment



Mode of Teaching and Learning

This course is divided in six units (Basics, Procurement, Manufacturing, Sales, Customization I and Customization II). Each session starts with a discussion of the relevant managerial and technical concepts, subsequently put in practice during a team exercise. The second part of each session takes place in a computer lab where students use Microsoft Dynamics NAV to carry out main steps along the business processes explained in the theory part. The software skills are further trained during team work projects to be carried out as home work in the context of a case study. Attendance is mandatory in all units. The course is based on lecture notes; slides will also be available.

Assessment

Assessment is based on the performance on team exercises (1/6 of the total score), home work (2/6 of the total score) and the final exam (3/6 of the total score), the latter focusing both on theory and main software functionality. In each category, at least 50% of all attainable points need to be achieved to pass the course (points are not compensatory).

The grading scale is as follows:

- At least 50%: Pass ("Genügend")
- At least 70%: Satisfactory ("Befriedigend")
- At least 80%: Good ("Gut")
- At least 90%: Very Good ("Sehr gut")