

Business Economics	
Offered by	Department of Industrial Engineering and Innovation Science
Language	English
Primarily interesting for	major students Industrial Engineering
Prerequisites	None
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Content and composition

This package is designed to give students a deeper and broader understanding of concepts in accounting, finance, risk management, and microeconomics.

Course code	Course name	Level classification
1CK40	Intermediate finance and accounting	2.
1CK90	Microeconomics	2.
1CK120	Revenue Management and Pricing Analytics	3.

Precedence relationships within the package

No precedence relations within the package. Only condition is prerequisite course Fundamentals of Financial and Management Accounting (1CV10; 3rd quartile).

Course descriptions

Intermediate Finance and Accounting (1CK40)

In the first part of this course students learn how to create and analyze cash flow statements. Besides, they learn how to use financial ratios to analyze and interpret the performance of a company. In the second part of the course, students learn (quantitative) methods and techniques to facilitate proper financial decision making. They start with techniques, such as the net present value and the internal rate of return, to evaluate deterministic cash flows streams. Thereafter, students apply these techniques to value fixed income securities such as loans, mortgages and bonds. They also use these techniques to value firms, discuss how to structure firm capital and execute proper capital budgeting. Then, students learn and apply the mean-variance model of Nobel laureate Markowitz and the capital asset pricing model. These models introduce (one-period) uncertainty and illustrate the trade-off between risk and return. Finally, students learn the basics of (financial) options, and how to use them to manage risk. Two group assignments are part of this course. These assignments deal with realistic business problems.

Microeconomics (1CK90)

For consumers, choices are all around. Simultaneously, producers select their own input-output combinations. Consumer and producer behavior subsequently come together as demand and supply sides of a market. Starting with standard models of choice, students acquire knowledge and gain insight into economic theory and underlying methods. Topics include consumer choice, firm supply, market demand, industry supply, elasticity, exchange of goods, etc.

Revenue Management and Pricing Analytics (1CK120)

Revenue management and pricing – “the art and science of selling the right product to the right customer at the right time for the right price” – addresses the fundamental objective of virtually every business: To maximize profitability. It combines probabilistic modeling, customer-choice modelling, optimization techniques and data analytics to determine how different companies should make capacity and price decisions for products and services. Revenue management and pricing originated in the airline industry, where flight tickets for the same flight may be sold at many different fares throughout the booking horizon depending on the remaining time until departure and the number of unsold seats. The use, however, of such strategies has transformed virtually all industries, and has become a rapidly evolving practice because of advances in digital technologies and e-commerce. This course is an introduction to both the theory and the practice of revenue management and pricing, and provides students with the required knowledge and skills to deal with this “art and science”. The course places particular emphasis on discussing quantitative data-driven models.