

Dear **MSc Economics student**,

The Master's program Economics is meant to follow a bachelor's program in economics. Since students having graduated from similar bachelor programs are allowed for admission as well, these students are expected to independently catch up on certain foundations necessary to participate in the Master's program.

The *following concept* are seen as *prerequisite*:

Macroeconomics

Literature recommendation:

Blanchard, Olivier: Macroeconomics, Pearson Studium

Solid macroeconomic knowledge is required.

- IS-LM model and its extension to a model with aggregate supply and aggregate demand
- Macroeconomics of open economies (with flexible and fixed exchange rates)

Moreover, microeconomic knowledge is required since modern macroeconomic models are often based on microeconomic foundations.

- Derivation of household optima
- Characteristics of Cobb-Douglas production and utility function
- Price setting for monopolys

Microeconomics

Literature recommendation:

Pindyck/Rubinfeld: Microeconomics, Prentice Hall

- Supply/Demand Analysis
- Elasticities
- Preferences; Indifference curves; Marginal rate of substitution; Utility function; Budget restraint; Demand function; Normal and inferior goods; Income and substitution effect; Consumer surplus
- Production functions; Isoquants; Marginal rate of technical substitution; Returns to scale; Cost functions; Profit maximization; Supply functions; Economies of scale
- Perfect competition; Efficiency of competitive markets; Market failure
- Monopoly (Cournot); Profit maximization; Impact on welfare; Natural monopoly; First and third degree price discrimination
- Monopolistic competition, Duopoly (Cournot)
- Game theory (matrix illustration, dominant strategies, Nash equilibria)
- Pareto efficiency; Edgeworth-Box; Fundamental theorems of welfare economics

Mathematics

Literature recommendation:

Alpha C. Chiang: Fundamental Methods of Mathematical Economics, McGraw-Hill

- Fundamental set theory
- Working with terms, equations and inequations
- Simple sequences and series, especially arithmetic and geometric series
- Univariate functions and their properties: injective functions, surjective functions, limits, continuity, monotony, concavity and convexity, global and local extremal points
- Drawing and interpretation of graphs of functions
- Working with elementary functions: Polynomials, rational functions, powers and roots, exponential functions, logarithms
- Differential calculus: differential, derivative of a function, antiderivative, integral