

Qualification goals Master's degree in Paper Technology - consecutive (for paper technology engineers) - 2023

The master's degree program "Paper Technology - consecutive" represents an in-depth, engineering-based training program in the focus areas of paper and board production. Upon graduation, students will have in-depth and wide-ranging technical and interdisciplinary knowledge along the wood-paper-printing value chain. The master's degree program in Paper Technology offers in-depth scientific and interdisciplinary training for practice-oriented engineers to enable them to take on management positions in the paper industry.

In the process, qualifications are taught that enable students to:

- control and optimize complete production processes with their in-depth knowledge and plan, set up, commission and maintain associated equipment,
- through their broad knowledge of industry-specific products and their applications, to work in the areas of application technology consulting, technical customer service, and product sales,
- to be employed in the fields of research and development for the design of new products, processes and machines or in technology for problem solving,
- to ensure the quality, environmental compatibility and sustainability of the production processes and products,
- to further develop one's own personality to become a leader in management in the above-mentioned areas.

To achieve these qualifications, the Master's degree program Paper Technology - consecutive provides the following knowledge, skills and competencies as learning outcomes:

1. Overarching knowledge and a deeper understanding of subject-specific mathematical-scientific and engineering-scientific contexts and the ability to apply them (e.g. Module B1 Chemical Engineering, Module B6 Automation Fundamentals and Module B13 Statistics and Design of Experiments);
2. Broad, detailed and critical understanding at the cutting edge of knowledge in one or more specialty areas to develop and review products with specific properties and defined quality (e.g. Module B7 Coating Fundamentals, Module B8 Coating and Barriers, Module B10 Paper Chemistry, Module E Specialty Papers, Tissue Products, Printing Technology).
3. To overview, analyze, evaluate, optimize and/or develop complex systems consisting of the equipment, machines, plants and automation technology in the paper industry (e.g. Module B12 Automation and Digitization, Module B5 Recycled Fibers, Module B11 Paper Machine Technology);
4. Responsible ability to analyze the design and evaluate the processes of paper technology with respect to ethics, ecology and economy, and sustainability (e.g. Module B9 General Management, Module B14 Circular Economy).

5. Ability to develop and inspect paper technology products with specific properties and defined quality (e.g. Module B2 Minerals, Module B7 Fundamentals of Coating, Module B8 Coating and Barriers, Module E Hygiene Papers, Module E Specialty Papers, Module E Product Development).
6. Ability to communicate with experts from different fields in international working environments and to work on projects cooperatively and result-oriented in a team as a team member and as a team leader (e.g. Module B3 Intercultural Communication Module E Project Management);
7. Ability to present results convincingly in professional presentations on a national and international level, to analyze and document processes and results systematically and scientifically, to critically question hypotheses and to test them for their scientific viability (e.g. Module B4 Scientific Writing and Module B9 General Management);
8. Ability to self-organize learning and work processes for lifelong learning, to manage projects, to conduct scientific work and practical research activities independently (e.g. Module B4 Scientific Writing and Module B15 Master Thesis);

These qualification goals include the scientific aptitude as well as the social competence to take up a qualified gainful employment. In addition, they include the ability to live in civil society and to develop one's personality. Graduates acquire the ability to critically assess the processes of paper technology with regard to ethics, ecology and economy, and sustainability, and can then responsibly help to shape the processes.