Qualification goals Master's degree in Paper Technology (continuing education) - 2023

The postgraduate master's degree program "Paper Technology" is a further qualification program in engineering science with a focus on paper and board production. After graduation, students have a broad range of technical and interdisciplinary knowledge along the value chain wood-paper-print-packaging-special applications. In the first semester, the postgraduate master's program in Paper Technology offers engineers from various disciplines the opportunity to acquire subject-specific knowledge of paper technology with its specific properties and test methods. This is followed by a broad scientific and interdisciplinary education for the practice-oriented engineers to enable them to take up leading positions in the paper industry. Based on the experience of recent years, the area of sustainability and circular economy has been strengthened.

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

- Linking to professional experience to achieve the qualification goals.

- 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 program Paper Technology provides the following knowledge, skills and competencies as learning outcomes:

1. Subject-specific knowledge and interrelationships of production processes and resulting product properties along the wood-paper-printing value chain (e.g. Module A1 Paper Technology Fundamentals, Module A2 Stock Preparation, Module A3 Paper Physics, Module A4 Biofibers, Module B2 Minerals, Module A5 Practical Research Training);

2. 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 Design of Experiments and Statistics);

3. 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 Fundamentals of Coating, Module B8 Coating and Barriers, Module B10 Paper Chemistry, Module E Specialty Papers, Tissue Products, Printing Technology).

4. Overview, analyze, evaluate, optimize and/or develop complex systems consisting of the equipment, machines, systems and automation technology in the paper industry (e.g. Module B12 Automation and Digitization, Module B5 Recycled Fibres, Module B11 Paper Machine Technology);

5. 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).

6. 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);

7. 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.