

## **Educational Outcomes of the Study program Master Paper Technology (consecutive)**

The Master program in “Paper Technology” is a graduate level further education intense, technical engineering study concept, focusing on the areas cardboard and paper production. It provides graduates with a profound, wide-ranging specialist and interdisciplinary knowledge about the value chain in the wood, paper and printing industry. The further education Master program in Paper Technology offers in the first semester training in specific technical competences such as pulp production, paper technology with specific properties and test methods for engineers with various engineering backgrounds. During the next semesters, the Master program Paper Technology offers an intense subject-specific as well as interdisciplinary training for hands-on engineers that qualifies them for leading positions in the paper industry. Upon successful completion of the program, our graduates are expected to be qualified:

- To manage and optimize entire production processes as well as to plan, set up, put into operation and maintain the corresponding plants.
- To perform in business areas such as application technology consultancy and technical support as well as sales and marketing, thanks to their wide-ranging knowledge of products within the paper industry.
- To hold positions related to research and development of new products, processes and machines, and/or as trouble-shooting experts on technology side.
- To ensure quality standards as well as environmental compatibility and sustainability of production processes and products.
- To further their personal development in order to become executives in the above mentioned areas.

In order to achieve these educational outcomes, our Paper Technology Master program provides students with the following knowledge, skills and expertise:

1. Comprehensive knowledge and understanding of specific mathematical, scientific and academic and specific technical engineering contexts as well as the capability to apply this knowledge appropriately ( e.g. Module 1: Chemical Engineering and Module 12 Statistics and Design of Experiments);
2. Comprehensive knowledge and understanding of specific technical engineering contexts as well as the capability to apply this knowledge appropriately (e.g. Module 2 Paper Chemistry, Module 4: Automation I);
3. A broad, detailed and analytical understanding, plus the ability for critical analysis based on their up-to-date level of knowledge in one or more areas of expertise (e.g. Module 8: Coating I, Module 13: Technical Elective: Clothing, Module 14: General Elective: Patent Law);
4. Complex systems consisting of devices, machines, systems and automation technology in the paper industry to survey, analyze, evaluate, optimize and / or develop complex paper industry (e.g. Module 5: Automation II, Module 7: Board and Paper Technology II);
5. A responsible attitude that enables them to analyze conceptual designs and to evaluate paper technology processes, while taking into account ethical, ecological and economical aspects as well as the sustainability of the processes and products in use (e.g. Module 6 Board and Paper Technology I, Module 7 Board and Paper Technology II, Module 13 Technical Elective: Sustainable Development und Module 14 General Elective: Marketing and Product Management);
6. Ability to develop and verify paper-based products with specific characteristics and defined quality (e.g. Module 3 Minerals and Printing Technology and Module 8 Coating I);

7. The capability to communicate with professionals from various areas of expertise in an international environment, to present results and papers on a national and international level, to work on projects cooperatively and in a result-oriented way as part of a team, performing either as a team member or leader and the ability to work in executive positions (e.g. Module 11: Project Management and Intercultural Communication);
8. Ability to systematically and scientifically analyze and document processes and results, to critically question hypotheses and to verify their scientific viability (e.g. Module 10 General Management);
9. The capability of self-organizing learning and work processes according to the concept of lifelong learning, to manage projects, to independently carry out academic work as well as practical research work (e.g. Module 9: Coating II and Module 15: Master Thesis);
10. Ability to answer one's own actions and take management tasks (e.g. Module 3 Minerals, Module 7, Board and Paper Technology II, and Module 11 Project Management and Intercultural Communication).

These educational outcomes include an academic and social competence to carry out a qualified employment. Furthermore, our Master program enables graduates to take on a responsible attitude in civil life and to continuously develop their personality.