

## **Student qualification – Mechanical Engineering**

### **Mechanical Engineering – Product Development and Industrial Design, 180 credits**

Within industry, product development is one of the most important areas. To develop products that meet the demands and expectations of the customers is a necessity to be successful on the global market. In order to succeed, creativity, innovative ability, expertise and a methodical approach is the foundation for the outcome of a product's function, shape and usefulness, but also for production and production costs.

The educational program aims at developing the knowledge and the skills that are needed to be part of the design and development of products from demand to production and choice of material and manufacturing methods.

There is a demand for general engineers in industry that can work as product developers with knowledge in mechanical engineering, industrial design or manufacturing. After the studies, the students can work as product developers, designers or be part of project management teams.

Before the internship in the end of semester 4, the students will have taken the following courses:

<b>Introductory Engineering</b> <ul style="list-style-type: none"><li>- Product development methods</li><li>- Industrial production economics</li><li>- Marketing</li><li>- Project management</li></ul>	<b>Mathematics</b> <ul style="list-style-type: none"><li>- Single variable calculus</li><li>- Multivariable calculus</li><li>- Linear Algebra</li></ul>
<b>Mechanical Engineering</b> <ul style="list-style-type: none"><li>- Engineering Design</li><li>- Mechanics I &amp; II</li><li>- Strength of Materials</li><li>- Engineering Materials</li></ul>	<b>Industrial Engineering</b> <ul style="list-style-type: none"><li>- Industrial Design</li><li>- Machine Design</li><li>- Manufacturing processes</li><li>- Surface Design modelling (CAD)</li></ul>

## Mechanical Engineering – Industrial and Production Management, 180 credits

Industry, especially within the commodity producing sector, has a large demand of engineers that have knowledge about production development processes, i.e. product development, production, supply of material and logistics. The educational program is aimed at providing the students with knowledge about how technology and economy affect each other in the value chain.

Furthermore, the students get to develop their skills necessary to manage production processes and in particular, where knowledge in production, logistics, quality, production planning and production economy is necessary.

Before the internship during semester 5, the students will have taken the following courses:

<p>Introductory Engineering</p> <ul style="list-style-type: none"> <li>- Product development methods</li> <li>- Industrial production economics</li> <li>- Marketing</li> <li>- Project management</li> </ul>	<p>Mathematics</p> <ul style="list-style-type: none"> <li>- Single variable calculus</li> <li>- Statistics</li> <li>- Linear Algebra</li> </ul>
<p>Mechanical Engineering</p> <ul style="list-style-type: none"> <li>- Engineering Design</li> <li>- Mechanics I</li> <li>- Strength of Materials</li> <li>- Engineering Materials</li> </ul>	<p>Industrial Engineering</p> <ul style="list-style-type: none"> <li><del>— Industrial Design</del></li> <li>- Machine Design</li> <li><del>— Surface Design modelling (CAD)</del></li> <li>- Work Organization and Work environment</li> <li>- Production engineering methods</li> <li>- Logistics</li> <li>- Material and production control</li> <li>- Manufacturing processes</li> </ul>