



RESPONSIBLE CONSUMPTION AND PRODUCTION

# CIRCULAR ENGINEERING

Do you want to be a part in creating solutions for global challenges? Then circular engineering is the right study programme for you. You will become a member of a new generation of engineers who critically analyse technological processes and re-create them so as to close material cycles, increase efficiency and, at the same time, minimise the ecological footprint.

Because of our interdisciplinary education, graduates of circular engineering are highly competent decision makers in areas of industry, economy, and society.

## MONTANUNIVERSITÄT LEOBEN

Franz Josef-Straße 18  
8700 Leoben  
+43 3842 402-0  
unileoben.ac.at  
info@unileoben.ac.at

Join Montanuniversität Leoben and find more information on admission at the Study Support Center.



BACHELOR'S & MASTER'S STUDIES

# CIRCULAR ENGINEERING



## BACHELOR'S PROGRAMME

This study programme is taught in English and will give you theoretical and practical tools from the fields of technology, natural sciences, sustainability, and ecology.

This includes understanding the laws of how nature is structured, the interrelationships according to which our world functions, understanding how production systems and material flow systems work, and how sustainability can succeed.

You will learn how to link and apply these skills so as to look at challenges and global developments from different points of view and to develop innovative solutions, through which you will contribute to a sustainable circular economy.

## CURRICULUM BACHELOR'S PROGRAMME

7 Semester (210 ECTS)

The bachelor's programme Responsible Consumption and Production is taught in English. The first two semesters, in which scientific and engineering fundamentals are taught, are fairly similar for all degree programmes. Starting in the third semester, bachelor's students will be taught profound knowledge that enables them to enter the professional field. A mandatory internship in related industry, as well as the writing of a bachelor's thesis, constitute the requirements for academic degree Bachelor of Science (BSc).

<b>Start of Programme and Orientation Phase</b>	<b>Key Skills for Engineers</b>
<ul style="list-style-type: none"> <li>- Transferable Skills</li> <li>- Introduction to STEM</li> </ul>	<ul style="list-style-type: none"> <li>- Chemistry</li> <li>- Mathematics</li> <li>- Physics</li> <li>- Engineering Mechanics</li> </ul>
<b>Digital Competences &amp; Statistics Fundamentals</b>	<b>Introduction to Study Programme</b>
<ul style="list-style-type: none"> <li>- Introduction to Data Modeling</li> <li>- Algorithms and Programming</li> <li>- Statistics</li> </ul>	<ul style="list-style-type: none"> <li>- Bacc Fundamentals</li> <li>- Do-it Lab Circular Economy</li> <li>- Do-it Lab Responsible Consumption and Production</li> <li>- Elective Bacc Fundamentals</li> </ul>
<b>Mandatory Courses for the Third to Seventh Semester</b>	
<ul style="list-style-type: none"> <li>- Modul 1: Engineering Disciplines</li> <li>- Modul 2: Sustainable Development</li> <li>- Modul 3: Primary Raw Materials</li> <li>- Modul 4: Secondary Raw Materials and Recycling</li> <li>- Modul 5: Process Engineering</li> <li>- Modul 6: Materials</li> </ul>	<ul style="list-style-type: none"> <li>- Do-it Lab 1/2/3</li> <li>- Responsible Consumption</li> <li>- Free Electives</li> <li>- Course Bachelor's Thesis</li> </ul>

You can find a list of detailed curricula from all the study programmes available at Montanuniversität Leoben at [unileoben.ac.at](http://unileoben.ac.at).

## MASTERS' PROGRAMMES

This master's programme aims to teach you technical-scientific knowledge in the areas of products and systems along the entire value creation cycle. In particular, you will develop know-how about resource efficiency, reduction of greenhouse gas emissions and development of sustainable, reusable and recyclable products.

As a Circular Engineer, you understand the concept of circularity of material flow systems especially from the production standpoint: from primary raw materials to the production systems to the product. You are also familiar with planning and realising the production of quality-assured, secondary raw materials out of end-of-life products by means of sustainable, innovative recycling processes. Resource and energy efficiency and minimising the environmental footprint of products and production systems constitute the core skills of Circular Engineers.

## FIELDS OF WORK

After the Circular Engineering programme, you can expect a wide range of professional activities in the development of new technologies, products and materials, in the development of energy sources and raw materials, and in the development of environmentally and socially compatible value creation systems, wherever sustainable decisions have to be made.

As a Circular Engineer you are the lynchpin in companies, science and politics, playing a crucial role in the transition of technological processes towards a circular economy: Future Circular Engineers – Engineer the Future.