

# CirCOOL 2018

## International Summer School on The Life Cycle of Materials in the Circular Economy

- . Six seminar blocks
- . Three field trips to industry
- . 3 ECTS
- . 11 days in Austria – the heart of Europe
- . Housing & half board
- . Cultural activities
- . Participation Fee: 199€

### APPLICATION REQUIREMENTS

- . English level of minimum B2
- . Applicant must be student of relevant technical/ scientific field
- . Bachelor students should have collected min. 90 ECTS during their BSc studies
- . List of application documents can be found at [international.unileoben.ac.at](http://international.unileoben.ac.at)

→ **APPLICATION DEADLINE: May 1<sup>st</sup> 2018**

**CONTACT:** Montanuniversitaet International Relations Office | **W:** [international.unileoben.ac.at](http://international.unileoben.ac.at)  
**E:** [christina.cresnik@unileoben.ac.at](mailto:christina.cresnik@unileoben.ac.at) | **A:** Franz-Josef-Strasse 18, 8700 Leoben



## MONTANUNIVERSITAET LEOBEN

As a 178 year old technical university with a unique profile, Montanuniversitaet Leoben (MUL) claims a special position in the Austrian as well as international academic landscape. The research and education profile is set along the value life cycle of products ranging from the extraction of raw materials, to processing, production processes, product design, product distribution and recycling of end of life products to reintroduce them into the value life cycle. All study programs and the university philosophy is set along this life cycle. The mentality of a new understanding of raw materials as a wholesome concept has long penetrated university thinking. Inside Austria the study programs with their specific focus offered can only be pursued in Leoben. As a result, Montanuniversitaet graduates have an outstandingly good position on the job market. For many years, the university's academic excellence and popularity have been documented by a number of ranking surveys (e.g. FOR-MAT magazine, Universum Talent Research, Tendence Graduate Barometer). In 2017, Montanuniversitaet was ranked one of the best universities in various engineering categories by the Shanghai Ranking's Global Ranking of Academic subjects.

**Montanuniversitaet** considers its central future aim to establish sustainability in its value-added cycle, from raw materials to the finished product, in the disposal of the product and its recycling and reuse as secondary material.

### MUL is a global center of excellence in our core disciplines

- Mineral resource and processing
- Metallurgy high performance materials
- Process and production engineering
- Environmental technology and recycling

### Which are complemented by the following fields of research

- Energy technology and resource management
- Safety engineering and risk management
- Mathematics, natural sciences, engineering and economics



**CirCOOL** is MUL's brand new and innovative international summer school program that will pilot for the first time in July 2018. The CirCOOL program intends to enable late beginner students to see the bigger scope of their specific educational field and what it can contribute to the whole material circle. This approach strongly contributes to the de-isolating of the various fields of expertise needed to implement the loop. CirCOOL 1.0 is arranged in a modular structure which mirrors and introduces the students to the various major steps of the value life cycle. Content seminars will be completed by three major field trips to relevant industry in order to show the practical applicability of CE in industry and economy.

## UNIVERSITY TOWN LOEBEN



### LEOBEN—A TOWN FULL OF OPPORTUNITIES

Leoben is a city of culture, a university city, a city of commerce, a hub of upper Styria, the second largest city in Styria and the home of the headquarters of leading multinational companies. Leoben is also known as the "Gateway to the Styrian Iron Road". A walk through the old town feels like a journey through the centuries. The city has many green parks, which invite you to take a walk and spend some time.

*Just a few ideas for leisure activities in and around Leoben...*

- . ....**discovering Europe—Austria is in the heart of Europe!**
- . ...hiking and other outdoor activities in Austria's beautiful nature
- . ...travelling within Austria: Excellent train access to Vienna (2 hours), Graz (1 hour) & Salzburg (3 hours)
- . ...getting to know Austria's fascinating culture: Visiting the old town Leoben, art galleries & concerts
- . ...shopping in the historical town centre or the shopping mall Leoben
- . ...having fun at cultural events, festivals, in parks, bars and garden restaurants
- . ...enjoying wellness and the exquisite local cuisine

General information	
<b>Topic</b>	The major steps of the life cycle of materials in the circular economy- theoretical status quo & its practical applicability in industry and economy
<b>Location</b>	Montanuniversitaet Leoben & local industry
<b>Date</b>	8-18 July 2018
<b>Application deadline</b>	May 1 <sup>st</sup> 2018; email all relevant application materials (see last page) to christina.cresnik@unileoben.ac.at
<b>Work load</b>	3 ECTS
<b>Target group</b>	Bachelor students who have collected min. 90 ECTS in their BSc studies & Master students
<b>English level</b>	Minimum B2
<b>Participants max.</b>	Max. 25; <b>if not agreed upon differently, max. 5 participants from one university- The international offices of the students' HOME university are asked to make a selection!</b>
<b>Housing</b>	Single bed room in shared apartment with kitchen and bathroom in our exquisite guest house Minroom (check it out at <a href="http://www.housing.oead.at">www.housing.oead.at</a> )
<b>Board</b>	Half board (breakfast and lunch on program days)
<b>Total costs</b>	199€ participation fee → money is due in cash on the first day of the summer school (Monday, July 9 <sup>th</sup> 2018)
<b>Academic Program</b> (-the preliminary schedule can be found at the end of this brochure)	
	<p><b>Day 1: Introduction &amp; Regional Center Leoben:</b> EIT RawMaterials &amp; Climate Kic</p> <p><b>Day 2: Mining Engineering and Mineral Economics</b></p> <p><b>Day 3: Mining Field Trip to Erzberg:</b> Biggest and most modern mining area in Central Europe</p> <p><b>Day 4: Energy Technology-</b> Sustainable Power to Supply the Life Cycle</p> <p><b>Day 5: Metallurgy &amp; Recycling/</b> Afternoon <b>Field Trip to Voestalpine:</b> Product and system solutions based on steel and metals</p> <p><b>Day 6: Process Technology &amp; Industrial Environmental Protection</b></p> <p><b>Day 7: Recycling Field Trip to Saubermacher AG:</b> Austria's leading waste disposal and recycling company in the private sector</p> <p><b>Day 8: Summery, Evaluation and Follow-up</b> (the weekend is off)</p>
<b>Leisure activities included</b>	
	<p><b>Day 1:</b> Historical city tour Leoben</p> <p><b>Day 3:</b> Afternoon at Leopoldsteiner lake: Bathing and hiking</p> <p><b>Day 7:</b> Afternoon in Graz- county capital of Styria &amp; second biggest city of Austria</p>

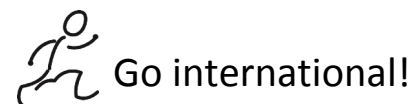
**WEEK 1**

SUNDAY 8 JULY	MONDAY 9 JULY	TUESDAY 10 JULY	WEDNESDAY 11 JULY	THURSDAY 12 JULY	FRIDAY 13 JULY
	<b>WELCOME &amp; INTRODUCTION (MIRO)</b>	<b>MINING ENGINEERING AND MINERAL ECONOMICS (Prof. Moser)</b>	<b>MINING ENGINEERING FIELD TRIP TO ERZBERG (MIRO)</b>	<b>ENERGY TECHNOLOGY (Prof. Kienberger)</b>	<b>METALLURGY &amp; RECYCLING (Prof. Antrekowitsch)</b>
<b>ARRIVAL DAY</b>	<b>8:15 Meeting in front of MUL main building</b> <b>8:30-12:00</b> 1. Intro to MUL 2. Intro to Summer School 3. Getting to know each other	<b>8:15 Meeting in front of MUL main building</b> <b>8:30-12:00</b> Lectures/ workshop Laboratory tour	<b>8:45 Meeting in front of dormitory</b> <b>9:00-10:00</b> Transportation <b>10:00- 11:30 ERZBERG:</b> Biggest and most modern mining area in Central Europe	<b>8:15 Meeting in front of MUL main building</b> <b>8:30-12:00</b> Lectures/ workshop Laboratory tour	<b>8:15 Meeting in front of MUL main building</b> <b>8:30-12:00</b> Lectures/ workshop Laboratory tour
	<b>12:15-13:45</b> Lunch break	<b>12:15-13:45</b> Lunch break	<b>12:00-13:00</b> Lunch in Eisenerz	<b>12:15-13:45</b> Lunch break	<b>Lunch Bag!</b>
<b>Arrive to Dormitory</b>	<b>14:00-16:30</b> <b>REGIONAL INNOVATION CENTER LEOBEN</b> -EIT Raw Materials -Climate Kic	<b>14:00-16:00</b> Lectures/ workshop Laboratory tour	<b>13:15-13:45</b> Transportation to Leopoldsteiner Lake <b>13:45-16:15</b> Hiking & bathing at Leopoldsteiner Lake <b>16:15-17:00</b> Transportation back	<b>14:00-16:00</b> <b>ENERGY TECHNOLOGY</b> Lectures/ workshop Laboratory tour	<b>FIELD TRIP TO VOESTALPINE</b>  <b>12:30-13:30</b> Transportation <b>13:30-16:30 VOEST ALPINE:</b> product and system solutions based on steel and other metals <b>16:30-17:30</b> Transportation back
	<b>17:00-18:00</b> Leoben City Tour <b>Meeting in front of MUL main building</b>				



**WEEK 2**

SATURDAY 14 JULY	SUNDAY 15 JULY	MONDAY 16 JULY	TUESDAY 17 JULY	WEDNESDAY 18 JULY	THURSDAY 19 JULY
DAY OFF	DAY OFF	<b>PROCESS TECHNOLOGY &amp; INDUSTRIAL ENVIRONMENTAL PROTECTION</b> (Prof. Lehner)	<b>RECYCLING FIELD TRIP TO SAUBERMACHER AG</b> (MIRO)	<b>SUMMING-UP &amp; GOODBYE</b> (MIRO)	DEPARTURE DAY 2
		<b>8:15 Meeting in front of dormitory</b> <b>8:30-12:00</b> Lectures/ workshop Laboratory tour	<b>7:45 Meeting in front of dormitory</b> <b>8:00-9:00</b> Transportation <b>9:30-11:00 Industry tour SAUBERMACHER:</b> Austria's leading waste disposal and recycling company in the private sector	<b>8:45 Meeting in front of MUL main building</b> <b>9:00-12:00</b> Final meeting: Evaluation & Goodbye	
		<b>12:30-13:45</b> Lunch break	FREE TIME to discover GRAZ	DEPARTURE DAY 1	
		<b>14:00-16:00</b> Excursion to project site			





**APPLICATION DEADLINE: May 1<sup>st</sup> 2018**

**APPLICATION DOCUMENTS:**

1. Filled out application form (form can be downloaded at: [international.unileoben.ac.at/en/6169/](http://international.unileoben.ac.at/en/6169/))
2. Confirmation of enrollment at university (in English or German!)
3. Transcript of records (in English or German!)
4. Copy of passport
5. Proof of English level min. B2 (if existent)

➔ We can accept max. 5 students from the same university!

*\*if not agreed upon differently*

*\*The international offices of the students' HOME university are asked to make a selection, if more than 5 students from one university apply*

**APPLICATION PROCESS:**

Applicants are asked to send all application materials in ONE email with subject **'Application for CirCOOL 2018'** to

**[christina.cresnik@unileoben.ac.at](mailto:christina.cresnik@unileoben.ac.at)**

**The participation fee of 199€ is due in cash on the first day of the program (Monday July 9<sup>th</sup> , 2018)**

**CONTACT**

**Montanuniversitaet International Relations Office**

Summer School Coordinator: Christina Cresnik, BA MA

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