

## Important Dates

Last day of classes **Dec 8**

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Final Exams **Dec 11-18**

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Winter break **Dec 19**

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Winter Session begins **Jan 4**

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## Campus Event

### Study Union

**Dec 4-11 | Student Union**

The Student Union will be open additional hours to give students the opportunity to study, relax and de-stress before their final exams. Events will include Crafts, Gaming, Power Up, Winter Wonderland Extravaganza and Stressbusters. Student Union quiet hours: 10 p.m. to 2 a.m.

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## Study Abroad

### Summer in France Information Session

**Dec 6 | 1:00-2:00 pm | Furnas 206**

It's not too late to apply for the SEAS Summer Study Abroad program in Troyes, France! Earn credit for EAS 207 and UGC 112. Apply for free online at the [Study Abroad Website](#). Contact Dr. Mook for more information. [mook@buffalo.edu](mailto:mook@buffalo.edu). [Learn more.](#)

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### Summer Schools at Munich University of Applied Sciences

Munich Summer School of Applied Sciences offers indepth study of engineering and business topics, integrating green issues with a focus on sustainability. The courses focus on practical application using state-of-the-art technology and teaching methods. Apply by March 4. [Learn more.](#) See attached.

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To post to the weekly bulletin, contact Brittany Sandor at [bsmetank@buffalo.edu](mailto:bsmetank@buffalo.edu)

# DEC 04 2017

## ANNOUNCEMENTS

[Faculty mentors](#) are your first resource with questions related to career aspirations, research goals, and graduate school guidance. Sign up now [online](#).

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### MAE Force Registration

All MAE Force Registration requests should now be made through the online application [online](#). Please read all instructions prior to filling out form.

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### Technical Electives

A list of Spring 2018 MAE Technical Electives can be found [online](#). Please note that this list is not a guarantee of course availability, and some courses are subject to cancellation.

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University at Buffalo

Department of Mechanical  
and Aerospace Engineering  
School of Engineering and Applied Sciences

[mae.buffalo.edu](http://mae.buffalo.edu)

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Foto: Allianz Arena

## Accommodation and Support

Accommodation will be organized by the coordinating staff upon request. Participants of the program will stay in a youth hostel or in a budget apartment in Munich. The accommodations are located in **safe neighborhoods**. All amenities and shops are easy to reach. Please find details about the housing and options on our website.

We guarantee professional assistance by the program coordinator and bilingual German buddies. There is a **pick up service** from Munich **airport or central station**. The buddies will help you to settle in smoothly. They will also accompany the field trips, company visits and receptions. **Free access to the internet** and to the library will be provided by the university as well as a **welcome package** including a Summer School shirt.

*»Coming to Germany was my first extended international trip. I really feel like my eyes were opened to other cultures. I loved the excursions, especially to BMW, and I feel like I learned a lot about engineering and life in general.«*

Elise, California Polytechnic State University

## Application

The deadline for application is **March 4<sup>th</sup>, 2018**. Places are limited. Please be aware that early applications will be favored. The application form can be downloaded at [www.hm.edu/summerschool](http://www.hm.edu/summerschool). Please send it to Munich University of Applied Sciences, either via email, fax or post.

## Contact

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**Summer School**  
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Foto: TAM, Torsten Krüger

# Engineering for Sustainability

**July 2 – August 3, 2018**  
**Munich, Germany**

## Munich Summer School of Applied Sciences



## Add Munich to your Résumé!

Munich is one of the leading economic, technological and scientific hubs in Germany. Companies including Siemens and BMW have their headquarters in the city. Other global players such as Apple and Microsoft have their German branch offices here. They all benefit from our **location in the heart of Europe**.

The historic city of Munich is over 850 years old. It is a vibrant center of **cultural activity** – a city of theater and music, literature, film, museums and festivals. Situated close to the Alps, the city is a great starting point for almost unlimited outdoor activities. And for spectator sports – “Allianz Arena” with soccer club Bayern Munich’s home-games is just around the corner.

Munich and the surrounding area are well known for a high standard of living. In Munich, tradition and innovation, industry and science, cultural and touristy attractions all contribute to the outstanding quality of life the city offers. In fact, Munich ranks among the top five most livable cities in the world (source: Mercer Quality of Living Survey 2015). Numerous surveys and statistics regularly emphasize not only Munich’s economic power, the variety of recreational opportunities or its excellent public transportation system but also its exceptionally low crime rate.

Come and experience it for yourself, and enjoy your stay in one of Germany’s most **beautiful and safe** cities!



[www.hm.edu/summerschool](http://www.hm.edu/summerschool)

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## Requirements

The summer school is designed for advanced undergraduate Engineering students (please also refer to the prerequisites specified in the course descriptions). Applicants must provide evidence of a good level of English (at least level B2 in the CEFR, TOEFL iBT 90 or equivalent, or mother tongue), as well as a letter of motivation and a transcript with the most recent grade point average.

## Fees

The program fee of € 1,790 covers: tuition for the German Language and Culture class, two subject courses, the official cultural and social program, free internet access at the university and a welcome package. For students from partner universities, the fee is reduced to € 1650. The deadline for applications is March 4<sup>th</sup>, 2018. Accommodation is not included.



## Academic Program

Munich Summer School of Applied Sciences offers in-depth study of engineering and business topics, integrating green issues with a focus on sustainability. The **courses focus on practical application** using **state-of-the-art technology** and **teaching methods**.

The program is intended for advanced undergraduate students in Mechanical Engineering, Automotive Engineering, Electrical Engineering and Industrial Engineering from Germany and abroad.

The summer school is a five-week program. International students participate in an intensive German Language and Culture course in the first week and continue these studies part-time throughout the program.

Students select two credit courses, which are taught in English by multi-national teams of two renowned lecturers from Munich University of Applied Sciences, California Polytechnic State University (USA) and the Strascheg Center for Entrepreneurship (Munich). Each subject course covers a **minimum of 40 teaching contact hours**, including laboratory experiments and simulations. The academic program also includes a number of relevant **field trips**. Please visit our website for detailed course descriptions.

*»This program was an incredible cultural and learning experience and I would recommend it to anyone.«* Alex, Pennsylvania State University

## Courses

### German Language and Culture

- Overview of the most important German phrases and grammatical structures
  - Vocabulary for day-to-day situations in Germany
  - Ability to communicate and read in German
  - Basic elements of German culture and its historical roots
  - The impact of culture on intercultural behavior
  - Three related field trips: Munich Documentation Centre for the History of National Socialism, Dachau Concentration Camp Memorial Site, Representation of the European Commission
- **6 ECTS credits (or 4 US-credits)**

### Smart Vehicles

- Overview of smart vehicles
  - Autonomous driving vehicles and their contribution to a sustainable mobility
  - Introduction to vehicle dynamics
  - Image Processing for autonomous vehicles
  - Defining simple manoeuvres with the model car
  - Test and competition with the model car
  - Field trip: Visiting BMW World and the plant (guided tour)
- **4 ECTS credits (or 3 US credits)**

### Smart Environments

- Definition of a Smart Environment
  - Introduction and assessment of different existing technologies
  - Setup of a simple Smart Environment
  - Use relevant methods for representing knowledge
  - Reasoning about knowledge in Smart Environments
  - Apply context-information to improve the reasoning process
- **4 ECTS credits (or 3 US credits)**

### Engineering of Sustainable Energy Systems

- The need for sustainable energy systems and their architecture
  - Introduction to Systems Engineering approaches for sustainable systems
  - Models and simulations of energy grids
  - Key components of sustainable energy systems
  - Sustainable energy net integration and engineering solutions
- **4 ECTS credits (or 3 US credits)**

### Microcontrollers for Everyone

- Arduino Microcontrollers, from an Applications Viewpoint
  - Software Techniques for the Arduino Development Environment
  - Sensors for Physical Measurements and Recording
  - Controls using LED's, Relays, Servos, and DC Motors
  - Microcontroller Communications
- **4 ECTS credits (or 3 US credits)**

### Hydraulic & Pneumatic Systems

- Overview of hydr. and pneum. systems and their applications
  - Properties of hydraulic fluids and their flow characteristics
  - Design of hydr. components incl. pumps/motors, actuators, valves
  - Hydraulic system design including component selection.
  - Analysis of system efficiency and energy consumption.
  - Hands on experimentation and testing of hydraulic components
  - Speed and position control experiments with real-time control
- **4 ECTS credits (or 3 US credits)**

### Sustainable Entrepreneurship

- Entrepreneurship in theory and practice – creativity, holistic perspective, knowledge and teamwork
  - Implementation of business models (feasibility study, business plan, marketing and sales, finance, industrial property rights)
  - Development and growth of the enterprise
  - Interdisciplinary teamwork
- **4 ECTS credits (or 3 US credits)**

## Cultural Program

A broad and attractive cultural program makes your stay an unforgettable experience.

The cultural program includes i.a. the following field trips:

- a guided tour of Munich by bike and a visit to a typical beer garden
- field trips to the BMW World including a plant tour
- a day trip to the beautiful Herrenchiemsee New Palace on an island in Lake Chiemsee with a boat trip and a Bavarian lunch
- trips to the Munich Documentation Centre for the History of National Socialism, to the Dachau Concentration Camp Memorial Site and to the Representation of the European Commission in Munich (as a part of the German Language and Culture class)

Meeting German students in class and afterwards provides unique insights into German every-day life. Joint studies with participants from all over the world complete an intercultural experience. The program will be complemented by receptions and get-togethers.

Munich University of Applied Sciences was founded in 1971. Today it is the largest University of Applied Sciences in Bavaria and the second largest in Germany offering more than 70 degree programs. The university maintains excellent contacts with companies and business in and around Munich and Germany and with about 200 partner universities around the globe.



## Application

The application deadline is **March 4<sup>th</sup>, 2018**. Places are limited. Please be aware that early applications will be favored. The application form can be downloaded at [www.hm.edu/summerschool](http://www.hm.edu/summerschool). Please send it to Munich University of Applied Sciences by email, fax or post.

# Operational Excellence – Managing Global Supply Chains the German Way

**July 2 – July 13, 2018**  
**Munich, Germany**



## Accommodation and Support

We guarantee professional assistance by the program coordinator and bilingual German buddies. The buddies will help you to settle in smoothly. They will also accompany the field trips, company visits and receptions. **Free access to the internet** and library will be provided by the university, as well as a **welcome package** including a Summer School shirt.

For the first week in Munich students stay at a youth hostel or budget hotel in a **quiet and safe neighbourhood** in central Munich. All amenities and shops are easy to reach.

During the **company tour in the second week** hotels will be booked for the students along to the scheduled route in **attractive places** like Salzburg, Regensburg or Nuremberg.

*»I chose this program because I wanted to see how German companies work in the field of Supply Chain. I was also looking for a cultural experience. This program combines academia, industry and cultural aspects so it was perfect for me.«* **Weridiana, Brazil**

## Contact

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Summer School  
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[summerschool@hm.edu](mailto:summerschool@hm.edu)

## Munich Summer School of Applied Sciences



## Cultural Program

A broad and attractive cultural program makes your stay an unforgettable experience. The cultural program includes the following field trips:

- Guided tour of Munich by bike
- Visit to a traditional Munich beer garden
- Evening venues in the second week according to the scheduled route in attractive places like Salzburg, Regensburg or Nuremberg

Meeting German students in and out of class provides unique insights into German everyday life. Joint studies with participants from all over the world complete an intercultural experience. The program will be complemented by receptions and get-togethers.

*»What I liked best was the integration with industry, not only the theory in class. The visits to leading companies in the field of Supply Chain Management were my highlight.«* **Jordan, Canada**

Munich University of Applied Sciences was founded in 1971. Today it is the largest University of Applied Sciences in Bavaria and the second largest in Germany offering more than 70 degree programs. The university maintains excellent contacts with companies and businesses in and around Munich and Germany, and has approximately 200 partner universities around the globe.



[www.hm.edu/summerschool](http://www.hm.edu/summerschool)

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## Requirements

The summer school is a two-week-program intended for students who want to experience Supply Chain and Operational Management not only in theory but also in practice at world class companies. It is designed for **advanced undergraduate and postgraduate students**.

## Fees

The **program fee** of € 1.695 covers: tuition for all courses, company visits (incl. transfers) the official cultural and social program, free internet access at the university and a welcome package. **Accommodation** will require an additional € 650 – 950 depending on the chosen category. The application deadline is **March 4<sup>th</sup>, 2018**.



## Company visits make this summer school unique!

The participants of this summer school will get an **insight into several companies** and learn about their successful methods at first hand. There are few cities more suitable for a program like this anywhere in the world: Munich is one of the leading economic, technological and scientific hubs in Germany. Many world-renowned companies from a wide range of industrial sectors are based here, including BMW, Siemens, MAN and Linde.

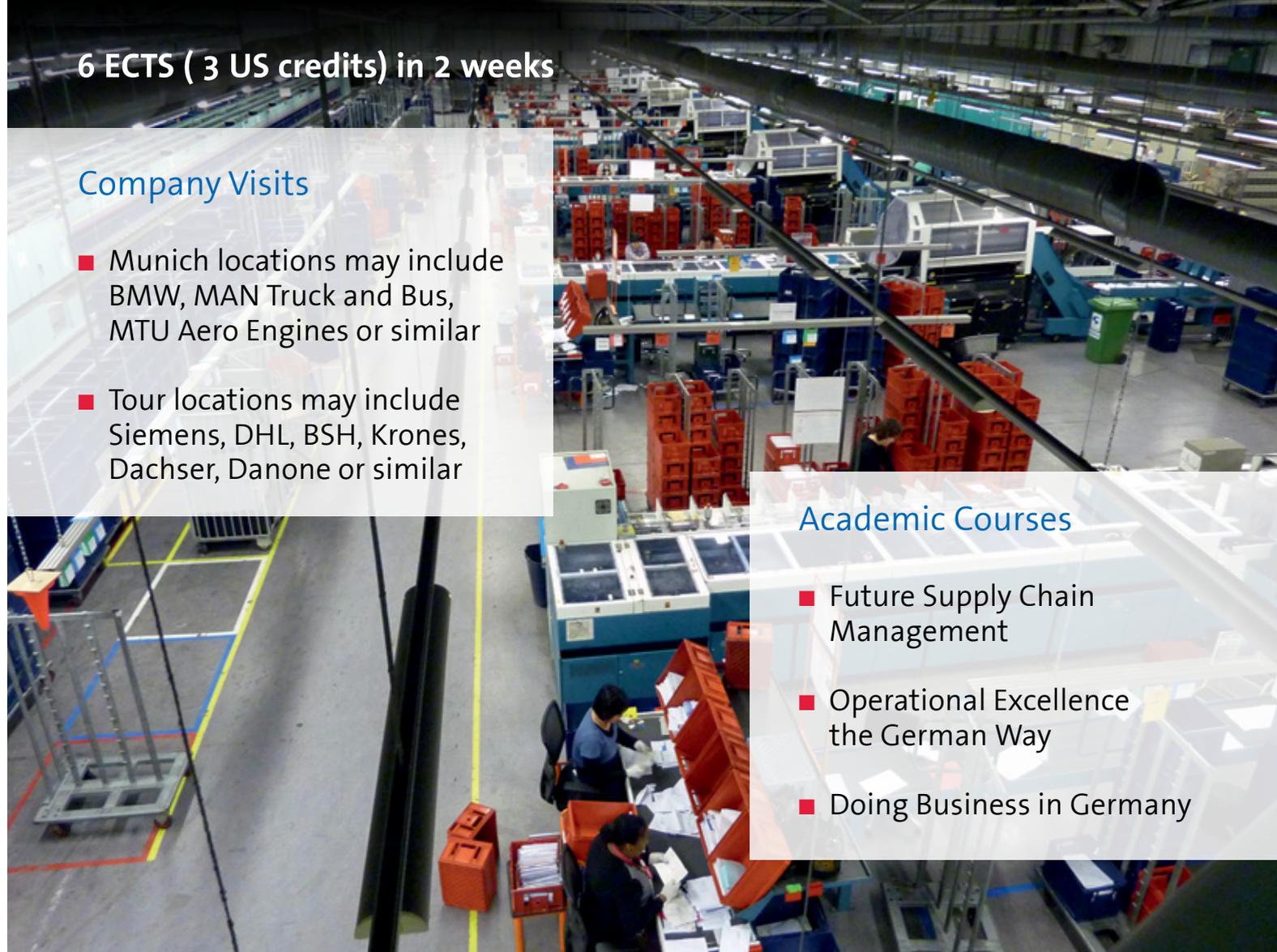
The reason for this concentration of companies might be the attractiveness of Munich to highly qualified and experienced professionals. In fact, Munich ranks amongst the **top five most livable cities in the world**. Numerous surveys and statistics regularly emphasize not only Munich's economic power, but also the variety of recreational opportunities, its excellent public transportation system and its exceptionally low crime rate.

In the first week of the summer school companies located in the Munich area will be visited. In the second week a **4-day bus tour will take us to different »champions«** (leading companies in their business sector) in different parts of southern Germany. During the company visits the participants will have the opportunity to see selected levers for Operational Excellence at work, and will discuss company-specific topics with the managers in charge.

## 6 ECTS ( 3 US credits) in 2 weeks

### Company Visits

- Munich locations may include BMW, MAN Truck and Bus, MTU Aero Engines or similar
- Tour locations may include Siemens, DHL, BSH, Krones, Dachser, Danone or similar



### Academic Courses

- Future Supply Chain Management
- Operational Excellence the German Way
- Doing Business in Germany

## Attendant academic courses

To get the most from the company visits the summer school offers three academic courses: The **Future Supply Chain Management** course focuses on the challenges facing the currently successful German supply chains in the years to come. You will understand the development of supply chain and operations management in Germany and have an overview of the main future challenges. Basic knowledge of supply chain risk management completes this part of the course.

The **German Way of Operational Excellence** course focuses on established and proven methods of German companies in a global context. Best practice examples show how operational excellence is implemented and how German companies will be prepared for future challenges.

If you want to do business in Germany, you have to be aware what drives people in this country. In the **Doing Business in Germany** course you will learn about economic history as well as Germany's economy today. Social and economic trends in the European context will also be discussed.

All courses are taught in English by teams of two renowned lecturers from Munich University of Applied Sciences: Prof. Andre Krischke and Prof. Jürgen Spitznagel. Please visit [www.hm.edu/summerschool](http://www.hm.edu/summerschool) for detailed course descriptions and updates concerning the company visits.