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

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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.

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!

Engineering for Sustainability
July 2 – August 3, 2018
Munich, Germany

Munich Summer School of Applied Sciences

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«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
The summer school is designed for advanced undergraduate Engineering students (please also refer to the prerequisites specified in the course description). Applicants must provide evidence of a good level of English (at least level B2 in the CEFR, TOEFL iBT 50 or equivalent, or mother tongue), as well as a letter of motivation and a transcript with the most recent grade point average.

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
- Students from Munich Documentation Centre for the History of National Socialism, to the Dachau Concentration Camp Memorial Site, Representation of the European Commission

4 ECTS credits (or 3 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
- Designing vehicle dynamics 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)

Microcontrollers for Everyone
- Arduino/Microcontrollers, from an Applications Viewpoint
- Software Techniques for the Arduino Development Environment
- Sensors for Physical Measurements and Recording
- Controls using LEDs, Relays, Servos, and DC Motors
- Microcontroller Communications

4 ECTS credits (or 3 US credits)

Hydraulic & Pneumatic Systems
- Overview of hydraulic and pneumatic systems and their applications
- Properties of Hydraulic Fluids and their flow characteristics
- Design of hydraulic 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)

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)

The cultural program includes i. a. the following field trips:
- a guided tour of Munich by bike and a visit to a typical Bavarian lunch
- 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 inter-cultural 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.

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