

Broaden your horizon and spend your holidays abroad in Germany

# Summer & Winter Schools at RWTH Aachen University

Check out our website!



Experience excellent academic content and have fun at the same time! Develop practical ideas together with renowned professors and expand your skills with hands-on case studies. Enjoy a wide range of social events full of intercultural and fun activities. Every program includes accommodation, two meals per day, and personal support from local mentors.

## Highlights & Benefits

Benefit from excellent teaching at RWTH Aachen University, a top-ranked and one of Europe's leading science and research institutions. To support the academic content of each program, we include visits of companies and institutes, lab tours, and the chance to network with German organizations.

## Quick facts about our Short Courses

- 🕒 on campus
- 📅 2-3 weeks
- ⌚ 50-100 Teaching Hours

- 🛡 2-4 ECTS
- 👤 RWTH Certificate
- 🗣 English

## Application Information

You are welcome to apply if you are:

- at least 18 years old
- proficient in the English language
- in your Bachelor's, Master's, in between or recently graduated

## Supporting Program

### Professional Insights

- Company Visits
- Institute & Lab Tours
- Expert Talks
- Networking

### Interactive Classes

- Lectures
- Exercises
- Case studies
- Experiments

### Social & Cultural Activities

- Social Events
- City Tours
- Mentoring Program
- Student Life in Aachen

### Comfortable Stay

Accommodation, breakfast & lunch, transportation  
Help with visa & insurance, travel tips, full-time support

Immerse yourself in artificial neural networks and deep learning

# Artificial Intelligence in Industrial Applications

Check out our website!



## Expect these Contents

This Short Course introduces the fundamentals of Cyber Physical Systems, Network Infrastructure, Innovative Sensor Systems and Data Integration to provide a comprehensive understanding of data acquisition in an industrial context, as well as a training in programming languages and tools commonly used for industrial AI, such as Python, scikit learn, and TensorFlow (Keras).

- Understand Key AI concepts such as machine learning, deep learning, reinforcement learning and time series processing
- Apply Supervised Learning in Predictive Quality
- Perform information integration in industrial networks
- Assess the potential of data driven solutions for industrial scenarios
- Master programming basics in Python

## Summer School

**June 21 - July 4, 2026**  
(2 weeks)

**2,250 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 3 ECTS**  
(approx. 75 hours)

**Accommodation included**

## Insights into the world of AI and smart manufacturing

Apart from understanding the theoretical concepts, you will also experience how they are put into practice. Learn how state-of-the-art AI-based technologies are used in the industry!

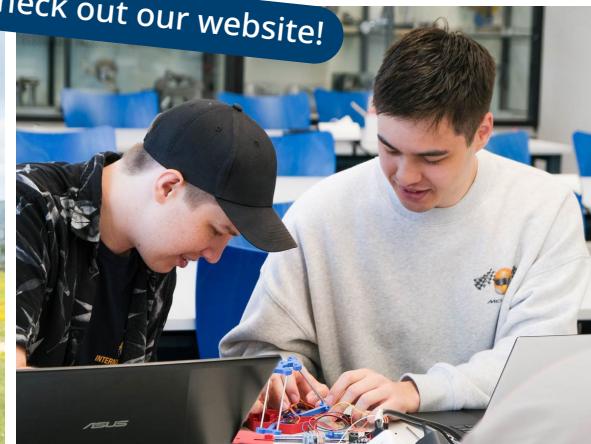


Build and control your own Delta Robot!

# Robot Operating Systems Essentials



Check out our website!



## Expect these Contents

Dive into the fascinating world of robotics, where you'll embark on a hands-on journey to build and control your very own delta robot. This course offers a comprehensive exploration of delta robot kinematics, assembly, and control mechanisms, including an introduction to the Robot Operating System (ROS), a crucial tool in modern robotics. From the fundamentals of robot construction to advanced control using both Arduino and ROS, you'll learn through practical, project-based sessions that culminate in a live demonstration of your robot.

- Understand delta robot kinematics and control principles
- Learn the delta robot building process, including material and component selection
- Program the delta robot using Arduino for task execution
- Debug and optimize robot performance for complex task execution

## Summer School

**June 21 - July 4, 2026**  
(2 weeks)

**2,750 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 3 ECTS**  
(approx. 75 hours)

**Accommodation included**

## Turn the theory into your own fully functional robot!

Gain new insights into robot design and control. You will build your own Delta Robot, which you can even take home with you at the end! Learn first-hand from industry experts and expand your own network!



Create your self-driving Lego car and stand out in the final challenge!

# Innovative Technologies in Automotive Engineering

Check out our website!



## Expect these Contents

Explore the fundamentals of automotive engineering, learn about mobile propulsion, and understand modern automotive technologies. You will discuss alternative vehicle propulsion systems, examine automated driving, and work on a case study. You even get to meet a student formula team. They present their work on self-built race cars with alternative propulsion systems to you.

- Study modern automotive technologies and longitudinal dynamics
- Understand how driving resistances and brake systems work
- Consider automated driving in its legal, social and economic context
- See how a student racing team builds their cars
- Succeed in a case study by building a self-driving miniature car

## Summer School

**June 21 - July 11, 2026**  
(3 weeks)

**3,350 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 4 ECTS**  
(approx. 100 hours)

**Accommodation included**

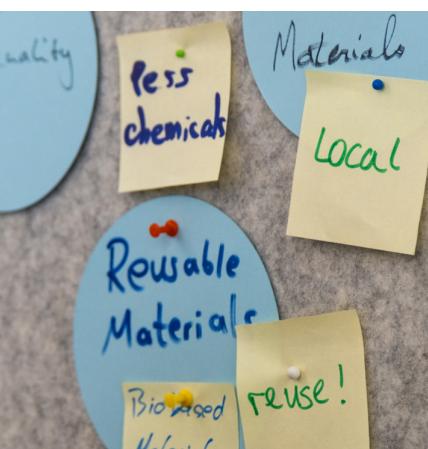
## Discover future-oriented and sustainable mobility

If you are interested in seeing how future-oriented technologies are being implemented in practice, this course could be a great fit for you! In previous years, a highlight of the program was a visit to DAF Trucks N.V.'s headquarters, where they showcased their latest innovations and alternative propulsion systems.



Learn to innovate with a multi-methods approach to real world impact!

# Sustainability and Circular Economy in Production



## Expect these Contents

This Short Course offers a comprehensive introduction to sustainability and circular economy principles in production. The multi-method approach includes:

- Deep dives into sustainability and circular economy principles
- Training in Hot-Spot Analysis, Life Cycle Assessment (LCA) and Life Cycle Sustainability Assessment (LCSA)
- A dynamic Design Thinking workshop to develop circular innovations
- Creation of business models using the R-strategies
- Ethical decision-making for responsible production
- Group-based simulation projects with expert guidance

## Summer School

**July 5 - July 18, 2026**  
(2 weeks)

**2,250 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 3 ECTS**  
(approx. 75 hours)

**Accommodation included**

## Insight into sustainable and circular production

Apart from understanding the theoretical concepts, you will also experience how they are put into practice. Learn how sustainability and circular production are implemented in the manufacturing industry.



Simulate a campus building and optimize its energy performance!

# Sustainable Buildings and Green Cities

Check out our website!



## Expect these Contents

Explore the energy efficiency of buildings on a micro-level, and consider districts on a macro-level, while learning about building performance simulation and district supply systems. A district from the living lab project SmartQuart will serve as a use case. SmartQuart's core technological element is the exchange of energy and intelligent networking within and between the smart districts.

- Understand the mathematical and physical basics to work with dynamic building simulation and plant operation simulations
- Implement models using computer-based numerical methods and the object-oriented modeling language Modelica
- Identify influential factors on CO2 emissions and costs in the operation of a power system through a sensitivity analysis
- Simulate a single zone of a building for a complete year

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(2 weeks)

**2,250 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 3 ECTS**  
(approx. 75 hours)

**Accommodation included**

## Explore a model of sustainable living

In times of energy transition, new technologies are emerging faster and faster. Become the next to shape a sustainable future! Do you want to experience the future of energy management up close? Our partner SmartQuart will help you understand the future of sustainable cities!



Solve computing assignments and apply your skills in a project

# Automation and Simulation



Check out our website!



## Expect these Contents

Learn all about fundamentals in automation and simulation. The topic simulation features various exercises in a computer lab. You solve real world problems by applying software and acquire a solid understanding of methods used in mechanical engineering. In the automation part, you discuss modern automated production systems, covering major cutting-edge technologies of production automation.

- Come up with elaborate calculations for adequate simulations
- Realize a project work in a computer laboratory
- Try, test, and acquire methods in mechanical engineering to understand automation processes
- Learn about current research challenges during a lab tour
- Upgrade your skill set for the interdisciplinary engineering world

## Summer School

**July 5 - July 25, 2026**  
(3 weeks)

**3,350 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 4 ECTS**  
(approx. 100 hours)

**Accommodation included**

## Insights into the technologies of the future

As a global pioneer in the field of industrial automation, Eaton is playing a key role in the development and implementation of the most advanced technologies. In previous years, a program highlight has been a visit to their German headquarters in Bonn, where participants enjoyed a full day of hands-on activities and the latest technologies.



Learn how to program robots for multiple purposes

# Robotics and Innovation for Future Industries



Check out our website!

## Expect these Contents

Gain fundamental theoretical knowledge in robotics and then apply your skills in lab classes at RWTH Aachen University. You solve classical problems in robotics like localization and navigation and make use of simulations. Receive information on industrial applications and see how stationary and mobile robots move because of your own programming.

- Experience various types of stationary and mobile robots
- Gain a theoretical understanding of lightweight industrial robots
- Apply your knowledge in practical projects and exercises
- Make use of different types of programming software and learn about sensors and their inaccuracy
- Solve tasks like mapping, navigation, planning, and reasoning

## Summer School

**July 5 - July 25, 2026**  
(3 weeks)

**3,350 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 4 ECTS**  
(approx. 100 hours)

**Accommodation included**

## Learn from a pioneer in global industrial robotics

We make sure that you get the most out of our network. Therefore, we cooperate with KUKA AG, one of the leading suppliers on the global market for industrial robots. Learn first-hand from experts and expand your own network!



Optimize production by considering materials, AI and smart factory concepts!

# Production Technology meets Industry 4.0



Check out our website!

## Expect these Contents

Explore fundamental areas of Industry 4.0 and acquire a better understanding of current and future requirements in production technology. Learn about Internet of Things and Internet of Production, discuss the role of robotics in automation and consider aspects of human-machine interaction. By considering different aspects of artificial intelligence you dive deep into the concept of smart factory.

- Experience the production chain with real-life machines and learn how to plan the layout of modern factories
- Gain valuable insights into Industry 4.0 technologies to improve human-machine interaction and succeed in future work places
- Understand artificial intelligence, big data and data mining
- Visit the „Smart Automation Lab“ to see robots in action
- Work with various materials and lightweight design

## Summer School

**July 5 - July 25, 2026**  
(3 weeks)

**3,350 €**

**On-campus**

**Supporting Program**

**RWTH Certificate with 4 ECTS**  
(approx. 100 hours)

**Accommodation included**

## Production Technology meets Industry 4.0 in reality

Our long-standing partner, Henkel, is known for producing entirely according to the principles of Industry 4.0, having perfected the concept of smart factories. In past years, a visit to one of their state-of-the-art production facilities was a program highlight, offering insights into their cutting-edge processes.

