

UNIVERSITÄT DUISBURG ESSEN

Open-Minded

Faculty of **Engineering**

International Studies in Engineering – ISE Master Programs

International Studies in Engineering



The ISE studying program offers degrees with professional qualification as a Bachelor of Science (B.Sc.) with high knowledge base and practical content, as well as degree courses in Master of Science (M.Sc.) with advanced essentials, where students are given the possibility to choose between a scientific or an application-oriented area of specialization of the previously completed bachelor degree.

ISE sets the objective to impart global engineering skills to graduates who want to access the international employment market. For this purpose, the curriculum requires course and exam credits in the fields of engineering and computer science as well as mathematics and natural sciences.

Studies in the ISE program consist of nine different master degree courses, where some master courses are divided into profiles for a certain specialization:

- Automation and Control Engineering
- Communications Engineering
- Computational Mechanics

- Computer Engineering
 - Profile Intelligent Networked Systems
 - Profile Interactive Systems and Visualization
- Embedded Systems Engineering
- Management and Technology of Water and Waste Water
- Mechanical Engineering
 - Profile General Mechanical Engineering
 - Profile Energy and Environmental Engineering
 - Profile Mechatronics
 - Profile Production and Logistics
 - Profile Ship and Offshore Technology
- Metallurgy and Metal Forming
- Power Engineering

All master degree courses follow the same structure and consist of core subjects, advanced theory subjects, profile subjects, electives and the master thesis. The mandatory core subjects are obligatory for all students and provide in-depth knowledge in the specific discipline. The subjects of a profile specialize in a specific area within this discipline. The electives can be chosen out of any discipline in engineering. The overall language of instruction for each master degree course is 50 % English and 50 % German.

In both industry and universities, there is a worldwide and longterm need for engineering graduates. The ISE program corresponds to global market conditions and was designed to match the job requirements for graduates. It particularly offers subjects of specific international relevance. Apart from the technical qualification, the linguistic and cultural aspects offer special advantages for graduates in a global job market and qualify them for responsible positions in international companies or for a continuation of their academic career, e. g. when heading for a Ph.D.

General Information

Beginning of program

The regular beginning of the program is annually in October (winter semester). Admission for the master program is also possible for summer semester (April).

Program duration

The curriculum of ISE is designed as a consecutive bachelor master program with duration for the master program of 2 years (4 semesters).

Semester

The academic year is divided in two semesters:

- Winter semester: from October to March
- Summer semester: from April to September

Lecture Period

In winter term the lectures usually start in mid-October and end in mid-February. The summer term lectures start usually in mid-April and finish at the end of July.

During the winter semester will be a break of two weeks for Christmas and New Year's holidays.

Examination period

The examination period always starts right after the lecture period and lasts for approx. 5 weeks.

Language of instruction

The language of instruction is half German and half English. This means that approx. 50% of the courses are taught in German and the other 50% are taught in English. The language of a certain examination is the same as the language of instruction in the corresponding lecture.

Admission requirements

Bachelor's degree in an appropriate subject area with adequate length of studies and with an average mark of at least 2.5 issued in Germany or a foreign equivalent.

Language requirements for enrollment

- English: B1 (CEFR)
- German: B1 (CEFR)

Fees

All students are required to pay a social contribution of about $290 \notin$ per semester. The social contribution includes a semester ticket covering public transport in North Rhine-Westphalia, subsidized meals in the canteen of the university and other services.

Costs of living

We recommend budgeting around 600 \notin to 900 \notin per month for personal expenses.

Accommodation

Accommodation is available through the Student Services Office or on the private market. Rent for a single room in a student residence is approx. $300 \in$.

More information:

www.uni-due.de/scies/accommodation.shtml

Accreditation

All degree courses are accredited by ASIIN.

Master Automation and Control Engineering

The topics of process monitoring, fault diagnostics and fault tolerant systems take on greater significance both in research and in the industrial application due to the continuously growing demands on high system reliability and system availability. Beyond the limits of the field of development under the keyword "Industry 4.0", applications about the control and feedback control systems can be found in the industry, in distributed systems and similar areas, which result from the fusion of the classical application fields (e.g. in the Mechatronics) and through distributed working methods.

This master study course is based on the acquired knowledge during a bachelor study course in electrical and electronic engineering. It imparts knowledge on methods in the automation and control domains as well as their implementation in computerbased systems. Besides that, the mathematical modeling and simulation of automated processes will be taught. This will be enabled through a combination of interdisciplinary courses from the natural sciences, electrical engineering, mechanical engineering and computer engineering fields. The students will have the opportunity to get into theoretical complex topics and to solve complex automation tasks, which require sophisticated methods and techniques from modeling and simulation.

For the graduates job opportunities as engineers are open for example in conception, planning and project management in following domains: automation domain, in the process technology, in the production control engineering, in the power transmission, in the central building control systems, in the traffic control systems, in the automation of cars and planes.

	Module	Credits
	Mathematics E4	5
	Modeling and Simulation of Dynamic Systems	5
1	Non-technical Catalog M	8
	Numerical Mathematics	6
	Theory of Statistical Signals	5
-	Fault Diagnosis and Fault Toloranso in Toshnical Systems	4
	Fault Diagnosis and Fault Tolerance in Technical Systems	4
	Medern Central Systems	4
2	Real Time Systems	6
1	Advanced Control Lab	4
	State and Parameter Estimation	4
	Elective Catalog ACE S	4
	Distributed Systems	6
	Fluid Flow 2	4
	Nonlinear Control Systems	5
J	Process Control Engineering	4
	Robust Control	4
	Elective Catalog ACE W	8
4	Mactor Thesis and Colleguium	30
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This master study course extends the basic knowledge from the bachelor studies to advanced theory and various techniques of information transmission in an analog and digital way for the fields of application in wireless and optical signal transmission. The knowledge on higher and numerical mathematics is deepened, needed for the understanding of subjects such as electromagnetic field theory, which is actually the basis of electrical engineering and information technology. The course emphasizes on technical subjects that open an access to the communications engineering world.

Through this course of studies, the students will be enabled to understand theoretical challenging tasks and to solve demanding problems, which require considerable theoretical tools from modeling, synthesis and simulation.

That way the graduates will primarily be prepared for research of innovative technologies in the communication technology, especially in the wireless transmission of the field of highfrequency engineering, transfer of these technologies in the industrial practice, leading positions in the industry in the development and operation of communication systems. The graduates can be employed in sectors, where demanding project planning is desired, or for the development of products (assemblies and systems) or even in research and sales.

	Module	Credits
	Analog Wireless Systems	4
	Mathematics E4	5
1	Non-technical Catalog M	8
	Electromagnetic Field Theory 1	6
	Theory of Statistical Signals	5
	Coding Theory	4
	Mohile Communication Fauinment	4
	Electromagnetic Field Theory 2	6
2	Transmission Technology	5
	Electronic Circuits	5
	Elective Catalog ComE S	8
	Distributed Systems	6
	Communication Networks	5
,	Microwave Theory and Techniques	5
3	Optical Communications Technology or Image Signals Technology	4
	Project Communications Engineering	6
	Elective Catalog ComE W	4
4	Master-Thesis and Colloquium	30



Master Computational Mechanics



This course of studies has an interdisciplinary touch and builds a bridge between theoretical modeling, numerical handling and experimental reality. It contains a fundamental concept that enables a reliable analysis of problems on the base of complex continuum mechanical modeling, numerical processes and experimental techniques. The fields of application associated to it grow steadily and range from civil and mechanical engineering disciplines (finite elements / volume calculations) to areas of medical sciences (biomechanics) and of biology (evolution simulations). The use of computer-based strategies for solving practice-oriented problems has increased rapidly during the last decades. The course structure contains topics from applied mechanics, engineering-oriented material sciences and many others topics from applied engineering.

This course enables the graduates to acquire a well-founded theoretical knowledge in order to responsibly apply complex computer-based calculation processes and even to extend them. The engineers will be trained to realize the typical applications and the limits of computational models as well as to use and broaden actual computational systems. This specially includes an intellectual interlocking and interaction of theoretical modeling, experimental verification and simulation-specific use.

	Module	Credits
	Computer Languages for Engineers	6
	Continuum Mechanics	6
1	Introduction to Numerical Methods	6
	Tensor Calculus	6
	Non-technical Catalog M	8
	Finite Element Method Foundation	6
2	Thermodynamics of Materials	6
1	Electives Catalog CM S	12
	Electives Catalog IW S	6
	Testing of Metallic Materials	5
,	Nonlinear Finite Element Method	6
3	Electives Catalog CM W	11
	Electives Catalog IW S	6
4	Master-Thesis and Colloquium	30

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Master Computer Engineering



This course of studies imparts knowledge on technologies of engineering-oriented computer science. The structure of the study field offers the students the possibility to choose between two profiles: "Intelligent Networked Systems" or "Interactive Systems and Visualization".

The graduates are able to perform demanding conceptual and innovative tasks of engineering-oriented computer science or independently make scientific contributions in the research field and take on leading positions later in professional life. Based on a fundamental and method-oriented bachelor study course, the students expand their knowledge about technologies of computer science and skills of use and acquire in-depth knowledge of the state of research in certain sub-fields.

	Module	Credits
	Non-technical Catalog M	9
1	Elective Catalog Fundamentals W	6
	Elective Catalog CE W	12
	Elective Catalog Fundamentals S	12
2	Elective Catalog Intelligent Networked Systems S	12
1	Elective Catalog Interactive Systems and Visualization S	12
	Elective Catalog CE S	6
	Master Project	15
	Elective Catalog Intelligent Networked Systems W	
3	or	18
	Elective Catalog Interactive Systems and Visualization W	
4	Master-Thesis and Colloquium	30



Master Embedded Systems Engineering



This master study course provides skills for integrating hardware and software of computer-based systems for a wide range of applications, such as in the telecommunications (e.g. smartphones, front-end computers), robotics (e.g. distributed sensor and actuator systems), automotive and automation engineering and in many other fields. Small but high-performance computer systems increasingly pervade and will continue to influence human life not only in the industry, but also in private life. This study course prepares graduates for the requirements of one of the biggest future technologies and its development in a global market.

For this purpose, the fields of hardware and software will be offered in greater depth. By using the computer-assisted design and testing methods, students will be prepared for complex decision-making processes in the development and production of future innovative products.

Since Embedded Systems are used in all fields of engineering there are excellent job opportunities for graduates in leading positions, especially in the fields of electrical and mechanical engineering and in the IT sector.

	Module	Credits
	Digital Circuit Technology	3
	Global Engineering	6
.	Measurement and Sensor Systems	4
Ľ	Non-technical Catalog M	9
	Numerical Mathematics	6
	Test and Reliability of Digital Systems	4
	Advanced Computer Architecture	4
	Automotive Electronics	4
2	Internet of Things	6
	Elective Catalog ESE S	12
	Elective Catalog IW S	4
	Distributed Systems	6
,	Self-Organizing Embedded Systems	6
3	Elective Catalog ESE W	12
	Elective Catalog IW W	4
4	Master-Thesis and Colloquium	30



Master Management and Technology of Water and Waste Water



This course of studies combines two fields of knowledge that have often been considered separately in the past; namely: "process engineering" and "management". Based on relevant studies in natural and engineering sciences, the study course predominantly includes topics of business and water resources management, advanced engineering subjects, as well as engineering subjects with a focus of water production, water conditioning and wastewater treatment.

The graduates are offered interesting job opportunities (leading positions) in water companies, in water associations as well as in planning. The fields of activity of the graduates therefore lie at the cross-section between process engineering/water technology and water management. The possible application areas are for example: project planning and development of water treatment plants and wastewater treatment plants, plant construction, operation of water treatment plants and wastewater treatment plants and economical aspects as well as realization and evaluation of quality management systems for drinking water suppliers.

	Module	Credits
	Adsorption Technology	4
	Membrane Technology for Water Treatment	4
	Non-technical Catalog M	8
1	Quality Management in Water Supply	4
	Urban Water Supply and Distribution	4
	Waste Water Treatment	4
	Water - Natural Science Fundamentals	4
	Management and Controlling in Water Industries	4
	Mechanical Process Engineering for Water Treatment Processes	4
	Practical Course Water Technology	5
2	Sustainable Water Management	3
	Thermal Process Engineering	4
	Elective Catalog MTW3 S	4
	Water Treatment 1	4
		-
	Excursion MTW3	1
	Industrial Course in Water Management and Technology	4
	Limp-home-Mode and Diagnosis of Mechatronical Systems	6
3	Production Management	4
	Elective Catalog MTW3 W	8
	Water Procurement	3
	Water Treatment 2	4
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4	Master-Thesis and Colloquium	30



The mechanical and plant engineering is a high-tech sector that is one of Germany's largest and future-proof industrial branches. Entirely new products and methods are formed by combining mechanical engineering with electrical engineering, measurement technology, control engineering and information technology.

As part of the progressive economic globalization, graduates of the master study course Mechanical Engineering have currently an almost infinite number of job opportunities. Thereby the master degree opens up attractive leading positions not only in big companies, but especially in small and medium-sized firms, which especially open up quick advancement opportunities. The robotics, sensor technology and laser technology are considered the innovative sectors, where specialists are increasingly needed. Good employment opportunities are still offered in the automobile industry and in the aerospace, electrical engineering, telecommunications, medical engineering as well is in the chemical and pharmaceutical industry.

The course of studies is divided into five profiles, from which the students have to choose one.



The profile "General Mechanical Engineering" presents a broad spectrum in mechanical engineering. The curriculum offers the students a traditional training in mechanical engineering, as well as a certain amount of technical core subjects including three elective catalogs for personal profiling of the students. Through this broaden and international-oriented course the graduates get an access to diverse occupational fields, for example in international machine and plants building, in thermal mechanical and chemical processing, in automobile manufacture and their supplier, in technical pollution control

and for planning offices and consultants.

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	Advanced Energy and Process Engineering W	4
	Combustion Science	4
1	Production Management	4
Ľ	Mechatronical Applications S	4
	Non-technical Catalog M	8
	Production and Materials W	4
	Advanced Factory and Decree Factory size C	4
	Advanced Energy and Process Engineering S	4
	Kinematics of Robots and Mechanisms	4
2	Mechatronical Applications W	4
1	Production and Materials S	4
	Elective Catalog ME S	12
	Heat and Mass Transfer	4
	Control Theory	6
	Manufacturing Technology	4
,	Computer Aided Engineering (CAE)	4
3		4
	Advanced Sensors - Applications, Interfacing and Signal Processing	4
	Elective Catalog ME W	12
4	Master Thesis and Colleguium	20
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As part of the progressive economic globalization, graduates of the corresponding master profile in **"Energy and Environmental Engineering"** have a large number of job opportunities. Thereby, the master degree enables attractive leading positions not only in big corporations but also in small and medium-sized businesses.

The topic of energy and environmental engineering gains great importance in light of the global climate and resource problems. The efficient and climate-friendly energy supply and the prevention of environmental pollution in soil, water and air, are the central challenges of the 21st century. Engineers make a significant contribution by developing resource saving plant and machinery on the one hand and technologies for precipitations of problematic substances on the other hand. That is why energy and environmental engineering is an innovative high-tech sector and is counted among Germany's strong-growing and future-proof industrial branches.

	Module	Credits
	Combustion Science	4
	Production Management	4
1	Energy Engineering W	4
•	Environmental Engineering W	4
	Non-technical Catalog M	8
	Process Engineering and Design W	4
	Energy Engineering S	4
2	Environmental Engineering S	4
4	Process Engineering and Design S	4
	Elective Catalog ME S	20
	Control Theory	6
	Manufacturing Technology	4
3	Computer Aided Engineering (CAE)	4
	Advanced Sensors - Applications, Interfacing and Signal Processing	4
	Elective Catalog ME W	12
4	Master-Thesis and Colloquium	30

The profile "Mechatronics" combines classical mechanical engineering with electrical engineering and information technology. Entirely new functions and manufacturing methods are created through the interaction of mechanical, electrical and electronic system components as well as their functional and local integration in common modules. In the offered profile, students gain a profound basic education in those methods, which form the fundaments of the development and manufacture of the mechatronic systems. In addition, students can expand and deepen their knowledge in special areas in a wide range of advances lectures. The research strength and diversity of the professorships, which together provide the study offer, enable the preparation of a final master thesis in the current fields of applications, e.g. robotics, automotive engineering and biomechanics, while retaining a high scientific level.

The graduates from this degree course have a large number of job perspectives, e.g. the automotive technology, robotics, sensor and laser technology and the software domain. Further employers can be found in the aerospace industry, in the electrical and communication engineering industry, in the medical technology as well as in the chemical and pharmaceutical industry.

	Module	Credits
	Combustion Science	4
	Production Management	4
,	Mathematical Methods W	4
1	Mechatronical Applications S	4
	Non-technical Catalog M	8
	System Dynamics W	4
	Mathematical Methods S	4
2	Mechatronical Applications W	4
4	System Dynamics S	4
	Elective Catalog ME S	20
	Control Theory	6
	Manufacturing Technology	4
3	Computer Aided Engineering (CAE)	4
	Advanced Sensors - Applications, Interfacing and Signal Processing	4
	Elective Catalog ME W	12
4	Master-Thesis and Colloquium	30

As part of the progressive globalization of the economy and the markets, products are manufactured at locations around the globe and require partly new and extensive material flows. In the profile **"Production and Logistics"**, methods and techniques for the development and the operation of production- and logistic-processes in supply chains will be taught. Through this course of studies, the students gain a sound and practice-oriented insight into logistics and its effects on production.

Through the combination of diverse aspects of technology with the requirements concerning organization, economy and logistics, the graduates receive a wide-ranging, interdisciplinary ability not just to understand such supply chains, but also to design and implement novel ones. The content therefore combines design, planning and management. The areas of application are really diverse: specialists for example in the domains of industrial engineering, product engineering, production planning and operation of intra-logistic systems, construction of supply chains as well as the development of software needed to use such chains.

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	Module	Credits
	International Raw Material Market	4
	Production Management	4
1	Logistics and Material Flow W	4
'	Non-technical Catalog M	8
	Product Engineering W	4
	Production Technology and Management W	4
	Logistics and Material Flow S	4
2	Product Engineering S	4
4	Production Technology and Management S	4
	Elective Catalog ME S	20
	Control Theory	6
	Manufacturing Technology	4
3	Computer Aided Engineering (CAE)	4
	Advanced Sensors - Applications, Interfacing and Signal Processing	4
	Elective Catalog ME W	12
4	Master-Thesis and Colloquium	30

The profile **"Ship and Offshore Technology"** takes care of the emerged demand for highly qualified engineers. Required knowledge and methods needed to solve issues within the ship and offshore technology in the context of mechanical engineering from the areas of hydrodynamics, construction, structural capability, numerical and experimental procedures will be taught. The structuring of the modules associates the breadth of the acquired knowledge to the breadth of the range of efficacy within the general mechanical engineering and the ship and offshore technology.

The graduates from this degree course will be prepared to develop solutions for demanding problems in the area of general mechanical engineering connected to the maritime domain. They will be able to work in the areas of research and development, to evolve new methods and contribute to innovations. Through this strongly international-oriented sector, the graduates get an access to occupational fields worldwide.

	Module	Credits
	Combustion Science	4
	Design of Ships and Offshore Structures 2	4
	Hydrodynamics 2	4
1	Non-technical Catalog M	8
	Computer Aided Engineering (CAE)	4
	Seakeeping and Hydrodynamic Loads of Ships and Offshore Structures	5
	Safety and Risk Analysis of Ships and Offshore Structures	4
	Finite Element Method 1	4
	Computational Fluid Dynamics for Incompressible Flows 1	4
2	Structural Analysis of Ships and Offshore Structures 2	5
	Elective Catalog ME S	8
	Elective Catalog SOT S	8
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	Control Theory	6
	Manufacturing Technology	4
3	Advanced Sensors - Applications, Interfacing and Signal Processing	4
	Elective Catalog ME W	6
	Elective Catalog SOT W	8
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4	Master-Thesis and Colloquium	30

Master Metallurgy and Metal Forming



In this course of studies, the metallurgical and metal-physical basics used for the production of metallic materials and their processing as well as heat treatment and refinement will be deeply discussed. Thereby, the students will be enabled to independently develop, implement and optimize processes and materials. Besides the deepening lectures from the metallurgy, the plasto-mechanics and the thermodynamics fields, other lectures related to process simulation, data processing as well as project management will be offered.

This master degree course enables attractive leading positions in the iron and steel industry and in the metal processing industry. The fields of activity for the graduates lie in the world of metal production as well as in companies that deal with the production and the processing of metallic materials. This ranges from the classical deployment consulting in constructive mechanical engineering to companies that deal with heat treatment in the further processing of volume and two-dimensional materials as well as in metal processing industries such as vehicle body construction and parts production in the automotive domain.

	Module	Credits
	Non-technical Catalog M	8
	Process Simulation in Metallurgy and Metal Forming	5
1	Welding Technical Manufacturing Method	5
	Tensor Calculus	6
	Testing of Metallic Materials	5
	Finite Element Method 1	4
	Casting and Solidification of Steel	5
	Metallography and Metallphysics	5
2	Theory of Plasticity and Forming Mechanism	5
	Recycling of Oxidic and Metallic Materials	5
	Elective Catalog MMF S	4
	Heat and Mass Transfer	4
	Production Management	4
	Computer Application in Metallurgy and Metal Forming	4
,	Vibration Analysis of Metallurgical Systems	4
3	Thermodynamics and Kinetics of Metallurgical Reactions	4
	Elective Catalog MMF W	8
	Heat Treatment of Metallic Materials	5
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4	Master-Thesis and Colloquium	30



The educational objective of the master study course is to prepare students for challenging tasks in management, research and teaching in the field of power engineering. The study course extends the basic knowledge of the bachelor study course in electrical and electronic engineering in the fields of mathematics and statistics, electromagnetic field theory and power engineering. Based on this, the fields of high-voltage technology and power engineering as well as appropriate systems with economic aspects in operating will be treated. The study course is completed with selected topics of renewable energy technology.

That way graduates are primarily prepared for the research of innovative technologies in power engineering, especially in consideration of different energy sources and economic aspects, use of these results into industrial practice for developing and operating innovative concepts of energy supply and for leading positions in the industry for developing and operating systems of energy production and supply.



	Module	Credits
1	Fundamentals of High-Voltage Engineering	5
	Mathematics E4	5
	Numerical Mathematics	6
	Electromagnetic Field Theory 1	6
	Theory of Statistical Signals	5
	Non-technical Catalog M	9
2	High Voltage Devices	7
	Power Industry	3
	Advanced Computer Architecture	5
	Power Electronics	4
	Power System Operation and Control	4
	Thermodynamics and Power Plants	4
	Elective Catalog PE S	4
3	Information Technology in Electrical Power Systems	4
	Power System Analysis	4
	Power System Operation and Control Lab	3
	Elective Catalog PE W	12
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4	Master-Ihesis and Colloquium	30



Support

The Support Center for (International) Engineering Students (SCIES) serves as a central information and advisory board for the students at the Faculty of Engineering. The mission of SCIES is to support all students at the Faculty of Engineering and to help them gain the best from their experiences at the University of Duisburg-Essen. SCIES consults in questions concerning the studies, helps in administrative matters and is in all questions the first level support for the students. SCIES is in close contact with the International Office, the Examination Office, the Office for Industrial Internships, as well as further advisory boards, for example the Student Counseling and Academic Career Services. Therefore, the members of SCIES are the first contact persons for the engineering students with any study related question.

www.uni-due.de/scies



Faculty of Engineering

The Faculty of Engineering combines a broad spectrum of technical fields, from electrical engineering and information technology to mechanical engineering, material technology and civil engineering, under a single roof. The presence of cognitive scientists and social psychologists within the faculty, particularly in the fields of media and communication, further adds to the study and research potential. With about 80 professorships and more than 10,000 students, our faculty belongs to one of the largest in Germany.

All these departments are closely linked, interdisciplinary, and work hand in hand. A multitude of synergy effects, common research projects as well as new development emphases therefore result from this cooperation. The academics from Duisburg-Essen are leading in the nanotechnology research, in environmental technology, in the automobile industry, in the fuel cell technology, in the offshore wind technology and in electrical engineering.

The Faculty of Engineering does not only offers a broad range of subjects, but also a number of specializations that are only available at very few universities in Germany. In the city with the world's largest inland port and a high-tech steel industry, courses are available in ship technology, logistics, foundry, metallurgy and metal forming. These are accompanied by various international engineering courses that attract students from all over the world.

University of Duisburg-Essen

Creative inspiration between the Rhine and Ruhr: the University of Duisburg-Essen (UDE) is located in the European region with the highest density of institutions of higher learning. Created in 2003 by the merger of the universities of Duisburg and Essen, the UDE is the youngest university in North Rhine-Westphalia and one of the ten largest universities in Germany.

Both campuses are easy to reach and offer the students a broad academic spectrum with an international orientation – ranging from the humanities and social sciences to economics and the engineering and natural sciences, including medicine. Students from 130 countries are currently enrolled at the UDE. The 40,000 students can choose from a vast array of bachelor's and master's degree programs.

In many disciplines, the UDE ranks amongst the TOP 10 of German research universities. The university emphasizes research in the fields of nanosciences, biomedical sciences, urban systems, empirical research in education, and change of contemporary societies.

Cities of Duisburg and Essen

The Ruhr metropolis is full of surprises, one of which has been its cultural transformation from a traditional industrial region to a European Capital of Culture and home to 5.3 million people from 140 countries.

Duisburg and Essen are situated at the confluence of the rivers Rhine and Ruhr. A population of 500,000 inhabitants makes Duisburg Germany's fifteenth largest city. With nearly 580,000 inhabitants, Essen is one of Germany's ten biggest cities. Both cities are proud of their history and traditions as major industrial cities. Thanks to the numerous companies located here, students have every opportunity to reinforce the vocational orientation of their studies, and the academic staff cooperates closely with the industry.

The centers of both cities have become stylish shopping areas with plenty of culinary highlights. The Limbecker Platz mall in Essen has raised the city's profile as a shopping destination considerably, and the same is true of the Forum on Duisburg's Königstraße, where the famous Lifesaver Fountain is located. Nearby recreational areas such as the Sechs-Seen-Platte in Duisburg and Essen's Baldeneysee are also very popular with visitors.

People from all parts of Germany and many other European countries have come to work and live in Duisburg and Essen. The friendly atmosphere of the cities and the warm welcome offered to foreigners by the local inhabitants are results from the smooth integration of many different nationalities over many decades.

The campus Duisburg is located adjacent to a wooded area. The city center is easily accessible through public transport. The campus Essen is located in walking distance to the city center. A periodical bus transfer between the two campuses is organized by the university.



UNIVERSITÄT DUISBURG ESSEN

Open-Minded

Faculty of **Engineering**

University of Duisburg-Essen

Faculty of Engineering

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