HECTOR SCHOOL
Technology Business School of the KIT

Karlsruhe Institute of Technology

Executive Education for Engineers

Part-Time Master´s Programs & Certificate Courses

Technology & Management Know-How

Quality Made by the Karlsruhe Institute of Technology (KIT)

Technology Business School of the KIT

The Karlsruhe Institute of Technology (KIT) is the largest institution for research and education in Germany. Globally known for its technology expertise in German engineering, KIT is famous for its research, excellent scientific education, lifelong learning, comprehensive advanced training, and a sustainable culture of innovation.

Continuous Education on the Highest Academic Level

The HECTOR School is the Technology Business School of the KIT named after Dr. Hans-Werner Hector, one of the co-founders of SAP AG. The school endeavors to provide professionals with state-of-the-art technology expertise and management know-how in part-time education formats. With Executive Master Programs, Certificate Courses, and Customized Partner Programs, the HECTOR School fosters lifelong learning approaches of its industry partners and the executive development of its graduates.

Your Success is Our Vision

The HECTOR School strives for sustainable and continuous education on the highest academic level, building on more than 10 years of experience. The growing need for qualified engineers, computer scientists, and economists demonstrates HECTOR School's vision: sustainable success of our graduates & their companies.

*Current rankings prove the quality of KIT, e.g.:

QS **Employability Ranking 2020**

#1 Germany
#7 Europe
#36 Worldwide

In times of transformation of entire business areas, whether through the possibilities of new digitalization technologies or the major social issues such as climate change and necessary CO^2 reduction, it is central for companies and employees alike to integrate needs-based training formats into the development strategy.

For more than 15 years, KIT's HECTOR School has been a strong partner in bringing current topics from research to teaching for professionals at the highest level. It is important to us that you are able to combine your professional and academic challenges in the best possible way and that we make you fit for future technology decisions in your industry together with the necessary management skills.

Dr.-Ing. Judith Elsner
Managing Director HECTOR School

Holistic Educational Approach at a Top Ranked Research University

Executive Education @HECTOR School

1 Technology Transfer & Innovation
from the internationally renowned university - the KIT.

2 Power of Networks
benefit from a comprehensive professional network of academemics and industry partners worldwide.

3 Part-Time Programs
allow for simultaneous work and study for participants and their companies.

4 Management & Engineering
combined makes our programs unique and ensures long term sustainability and competitiveness.

4 REASONS
for the Technology Business School of the KIT

HECTOR SCHOOL
OF ENGINEERING & MANAGEMENT

Executive Master of Science Programs Combining Engineering & Management Know-how
Energy Engineering and Management | Financial Engineering | Information Systems Engineering & Management | Management of Product Development | Mobility Systems Engineering & Management | Production & Operations Management

HECTOR SCHOOL
ACADEMY OF FURTHER EDUCATION

State-of-the-Art Technology Expertise in Compact Education Formats
Customized Qualifications for Companies | Adaptive Further Education Programs | Module Selection | Certificate Courses | Management Impuls | MBA Fundamentals Program

A Strong Cooperation with Industry

Lifelong Learning Programs Stimulate Innovation and Competitiveness

Challenges for Industry

There are numerous challenges for the industry: A shortage of specialists and managers, demographic changes, globalization and working across time zones, permanent accessibility for customers, and the changing values and lifestyles of working people. These factors present companies with new challenges for ensuring long term employee retention and to attracting new talent.

Challenges for Employees

Companies today are subject to ever faster-moving change than they were just a few years ago. Markets are global, technologies in production, energy and automation are advancing constantly and at a rapid pace. This also means that professionals have to keep moving in order to remain attractive as employees. This implies not only always being up to date in one's own specialist field, but also demonstrating flexibility and facing up to new demands.

Benefits for Industry and Employees

The solution to these modern challenges can be found in a lifelong learning approach in which professionals can optimize their skill set and utility through further education programs. Likewise, lifelong learning is a key factor for companies in human resource development and retention.

The advantages of lifelong learning programs in co-operation with universities, given a highly academic yet practicaly oriented approach, are manifold:

Technology Transfer & Innovation

Industries benefit from state-of-the-art research at the KIT. HECTOR School program participants are instructed at the highest academic level. They will act as interfaces between their companies and the KIT. The Master thesis is often the start of an intensive cooperation through joint innovation projects.

Management & Technology

Equipped with scientific methods and state-of-the-art knowledge in their field of technology expertise, combined with management and digitalization know-how, participants develope the creativity and innovative potential of their company. Furthermore, professionals prepare themselves for future career in executive positions.

Power of Networks

In times of global and cross-linked markets, a network of international peers is indispensable. The HECTOR School graduates will gain valuable contacts within KIT and an extensive professional network of alumni worldwide.

Part-Time Programs

The HECTOR School programs allow to gain high-level academic further qualification while being able to work at the same time. Due to the part-time approach, professionals can continue their challenging careers.

Further Training and Qualification of Employees Are Central Success Factors

»Digital transformation requires establishing a fundamental shift in strategy. It is imperative for all processes to integrate stakeholders into these dynamic processes. The further training and qualification of employees are central success factors driving this digital change.

As a partner, the HECTOR School provides valuable support in the continuous training of our employees and fosters technological know-how and innovative potential, ensuring for a successful internal and external digitalization.«

Klaus Helmrich
Chairman GEA Group Aktiengesellschaft

ABB AG • ***Alcatel-Lucent Deutschland AG*** • Alcatel Transport Solutions Deutschland GmbH Alten Technology GmbH • Audi AG • **Balluff GmbH** • BASF IT Services GmbH • BASF SE • BBBank eG Bearing Point GmbH Behr-Hella • Thermocontrol GmbH • Blohm+Voss Nordseewerke GmbH • **BMW Group** **Bombardier Transportation GmbH** • Bosch Rexroth AG • Brose Fahrzeugteile SE & Co. KG • **Continental AG** • **DAIMLER AG** DB Fernverkehr AG • DB ProjektBau GmbH • *Deloitte Touche Tohmatsu Limited* • *DZ Bank AG* • **Eisenmann SE i. Ins.** El-Khayyat • ELO Digital Office GmbH • ***EnBW*** • **Endress + Hauser AG** • **Enpower Energy Corp.** • EUROHYPO AG ***EvoBus GmbH*** • Festo SE & Co. KG • FFG Europe & Americas • **Fine Hygienic Paper Co. Ltd/ Nuqul Group** • Hewlett-Packard GmbH Hikma Pharamceuticals PLC • ***Howaldtswerke-Deutsche Werft GmbH*** • **IBM Deutschland GmbH** **Karl Dungs GmbH & Co. KG** • Knorr-Bremse AG • KPMG AG • **KSB SE & Co. KGaA** • *Landesbank Baden-Württemberg (LBBW)* Lufthansa Technik AG • MAHLE Behr GmbH & Co. KG • Mahle GmbH • MAN Truck & Bus SE **MBtech Consulting GmbH** • MELEC GmbH • Melexis GmbH • MiRO Mineraloelraffinerie Oberrhein GmbH & Co. KG • Navistar, Inc. **NXP Semiconductors.** • OBE, Ohnmacht & Baumgärtner GmbH & CO KG • P3 GROUP GMBH • Porsche AG PROMATIS software GmbH • **Reuters AG** • **Robert Bosch GmbH** • **Rolls-Royce Power Systems AG** • **SAMARCO Brazil** • **SAP SE** SAS Autosystemtechnik Verwaltungs GmbH • **Schaeffler Technologies AG & Co. KG** • Schuler AG ***SEW-EURODRIVE GmbH & CoKG*** • ***Sick AG*** • Sictel s.r.l. • Siemens AG • Sparkasse Karlsruhe • **Staufen AG** ***Telekom Deutschland GmbH*** • Thales Group • *thyssenkrupp Marine Systems GmbH* **thyssenkrupp rothe erde Germany GmbH** • **ThyssenKrupp Technologies AG** • TI Fluid Systems *T-Systems International GmbH* • Unilever • Vale S.A. • Verband der Deutschen Bahnindustrie (VDB) e.V. Vibracoustic SE • **Volkswagen AG** • WMF Group GmbH • WSP Global Inc. • XING AG • ***Ziehl-Abegg SE*** • Zwick GmbH & Co. KG

Portrait of the HECTOR School

Executive Master of Science Programs

Cutting Edge Technology Combined with the Latest Management Expertise

Part-Time Master´s Programs for Professionals

Your Next Step in a Successful Career

Six Executive Master of Science Programs

The HECTOR School offers six part-time master programs designed for professionals in leading positions. The Master´s programs differs from the typical MBA program as they combine management with engineering expertise. The primary goal is to enable professionals to take a holistic approach when managing highly interdependent processes. All programs are completed with a Master of Science degree from the Karlsruhe Institute of Technology (KIT).

Leadership Know-How for Engineers

All programs share five management modules providing the participants with general knowledge in finance, accounting, marketing, international multi-project management, international law, human resource management or innovation management. Therefore, they can forecast the commercial implications of project decisions.

Technology Expertise: More Than Just an MBA

In addition to the management modules, five engineering modules in each specialization convey state-of-the-art technology know-how and the methodology necessary to master the scope of new technologies.

Aquire Competencies to Succeed with Digitalization

Products, services and processes are translated into a digital representation – aiming higher productivity and efficiency. To fulfill this, corporate divisions are asked to develop a systematic amd holistic approach for the increased use of digital components. All Master's programs consider digitalization on a comprehensive level.

Part-Time Structure for Professionals

The academic calendar for the Master´s programs starts annually in October. It consists of 10 modules, each with a duration of 10 days. Intermittent periods of lectures are scheduled to allow participants to continue with their demanding careers whilst acquiring new skills.

All Master´s programs are taught in English. They are completed within approximately 20 months. Workshops and case studies provide ample opportunities to explore the direct applications of the module contents simulating a real business environment.

Master Thesis as an Innovation Project

The Master thesis allows participants to work independently, reflecting their own company's individual critical needs and their specific business environment. Companies and participants have the unique opportunity to establish innovation projects in the framework of a Master thesis. Through this, companies profit from an outstanding added value with consultation by KIT professors.

Read more:

= including module at another international location

Master Programs

EEM	Energy Engineering & Management
FE	Financial Engineering
ISEM	Information Systems Engineering & Management
MPD	Management of Product Development
MSEM	Mobility Systems Engineering & Management
POM	Production & Operations Management

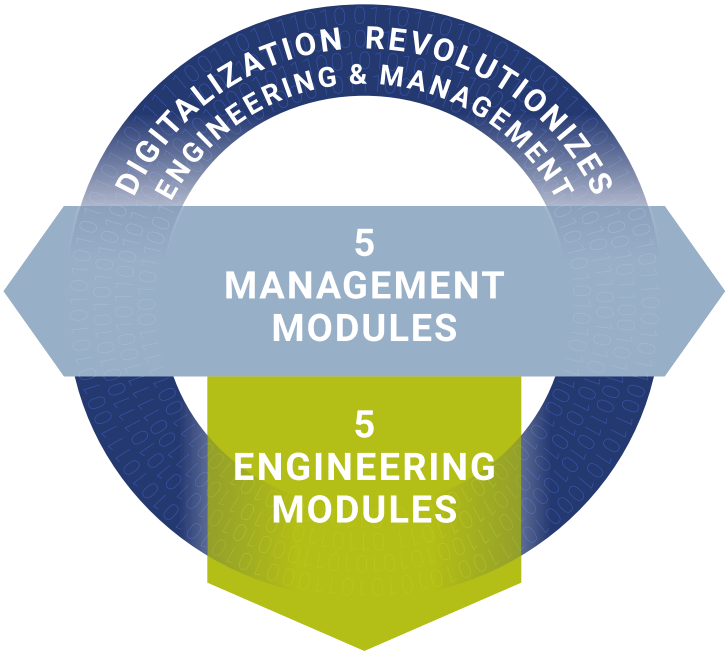
All Master´s Programs share five management modules conveying the latest theories and methods in management. Participants from different branches and international locations can exchange their expertise, discuss current technological and commerical challenges from different viewpoints and build up a sustainable network of peers.

Management Modules

Within all Master´s Programs

Big Picture Management Modules

Management is becoming increasingly complex and networked in data-driven companies (INFORMATION). Therefore, engineers and managers must obtain a holistic understanding of all corporate divisions to be able to make complex decisions (DECISIONS & RISK) in a future and result-oriented manner (INNOVATION & PROJECTS) from the perspective of the market (MARKETING), the employees (STRATEGY & PEOPLE), and the company (FINANCE & VALUE).



Co-Program Directors Management Modules

Prof. Dr. Martin Klarmann | Master Programs EEM, MPD
Institute of Information Systems and Marketing, KIT

Prof. Dr. Stefan Nickel | Master Program MSEM, POM
Institute of Operations Research, KIT

Prof. Dr. Martin E. Ruckes | Master Programs FE, ISEM
Institute of Finance, Banking, and Insurance, KIT

Management Modules

MM 1	Marketing & Information
MM 2	Finance & Value
MM 3	Decisions & Risk
MM 4	Innovation & Projects Corporate Innovation and Entrepreneurship (EEM, MSEM)
MM 5	Strategy & People

Six Master of Science Programs (M.Sc.)

M.Sc. in Management of Product Development (MPD)

Agile Engineering of Mechatronic Systems

»Product development is the driver of innovation. In MPD, you learn to manage product development in an efficient, methodical, creative and success-oriented way. With the scientifically sound and practice-oriented training program for professionals, you become qualified to be the driving force for successful product innovation in your company.«

Prof. Dr.-Ing. Dr. h.c. Albert Albers

Institute of Product Engineering, KIT | Program Director MPD

Engineering Modules

EM 1	Integrated Product Development by ASD – Agile Systems Design
EM 2	Design & Validation Process and Information Systems for Product Development (PD)
EM 3	Simulation and Target Values in PD
EM 4	Validation and Verification in PD
EM 5	Tools and Methods of Product Engineering →

M.Sc. in Production & Operations Management (POM)

Global Production, Digital Transformation in Supply Chain Management and Logistics

»The design and operation of production systems and supply chains is undergoing a rapid change. Driven by new technology, as reflected by industry 4.0, the education of the past is no longer sufficient to guide companies through the changes. A master in POM equips participants with the necessary competences, bridging the gap between up-to-date theories and advanced technologies.«

Prof. Dr.-Ing. Kai Furmans

Institute for Material Handling & Logistics, KIT |
Academic Director of the HECTOR School and Program Director POM

Engineering Modules

EM 1	Collaborative Engineering in Production and Operations Management
EM 2	Digital Engineering Ecosystems
EM 3	Modern Operations Management for Supply Chain Networks
EM 4	Networks of Supply & Production Systems
EM 5	Global Production & Distribution Systems →

M.Sc. in Mobility Systems Engineering & Management (MSEM)

E-Mobility, Autonomous Driving & Systems Engineering

»The Master Program MSEM offers a unique combination of courses in emerging technologies & systems engineering. Processes, methods and tools for the challenges of future mobility in e-drive, autonomous driving, communication-over-the-air, and worldwide release & configuration management are introduced on the engineering as well as on the management side.«

Prof. Dr.-Ing. Eric Sax

Institute for Information Processing Technology, KIT |
Program Director MSEM

Engineering Modules

EM 1	Processes, Methods & Tools of Systems Engineering
EM 2	Systems Design
EM 5	Systems Integration & Validation

Specialization Advanced Driver Assistance Systems (ADAS)		Specialization E-Mobility	
EM 3	Functions of ADAS	EM 3	E-Mobility: Political & Technical Framework
EM 4	Components & Technologies of ADAS	EM 4	E-Mobility: Components & Technology

Expand Career Opportunities via Developments in Digitalization and Globalization for Product Innovation, Logistics, Mobility, Energy, Finance, and Industry 4.0

M.Sc. in Energy Engineering & Management (EEM)

Future Energy Systems and Technologies

Program Directors EEM:

Prof. Dr.-Ing. Marc Hiller
Institute of Electrical Engineering, KIT

Prof. Dr.-Ing. Dimosthenis Trimis
Engler-Bunte-Institute, KIT

»The energy transition is associated with many challenges, such as an increase in efficiency of energy conversion systems based on renewable energies and their integration into future energy systems. This requires e.g. the development of capable energy storage systems and an intelligent demand side management. EEM covers all these aspects and provides the skills to successfully face the challenges.«

Engineering Modules

EM 1	Renewables
EM 2	Thermal Energy Conversion
EM 3	Electricity Generation & Energy Storage
EM 4	Smart Networks & Energy Distribution
EM 5	Energy Economics

M.Sc. in Financial Engineering (FE)

Data Science, Machine Learning, and Predictive Analytics

Program Directors FE:

Prof. Dr. Martin E. Ruckes
Institute of Finance, Banking, and Insurance, KIT

Prof. Dr. Maxim Ulrich
Institute of Finance, Banking, and Insurance, KIT

»Building more accurate models reduces uncertainty around future events and paths the way to better decision making. A mix of broad decision-making applications, sound data and modeling work, paired with an entrepreneurial drive to solve innovation challenges using modern software and financial thinking makes Financial Engineering unique.«

Engineering Modules

EM 1	Digital Financial Markets
EM 2	Financial Economics for Data Scientists
EM 3	Machine Learning for Data-Driven Decision Making
EM 4	Engineering Aspects of Financial Markets
EM 5	Alternative Data and Machine Learning for Business Applications

M.Sc. in Information Systems Engineering and Management (ISEM)

Digital Transformation of Products, Services, and Organizations

Program Directors ISEM:

Prof. Dr. Andreas Oberweis
Institute of Applied Informatics and Formal Description Methods, KIT

Prof. Dr. Ralf Reussner
Institute for Program Structures and Data Organization, KIT

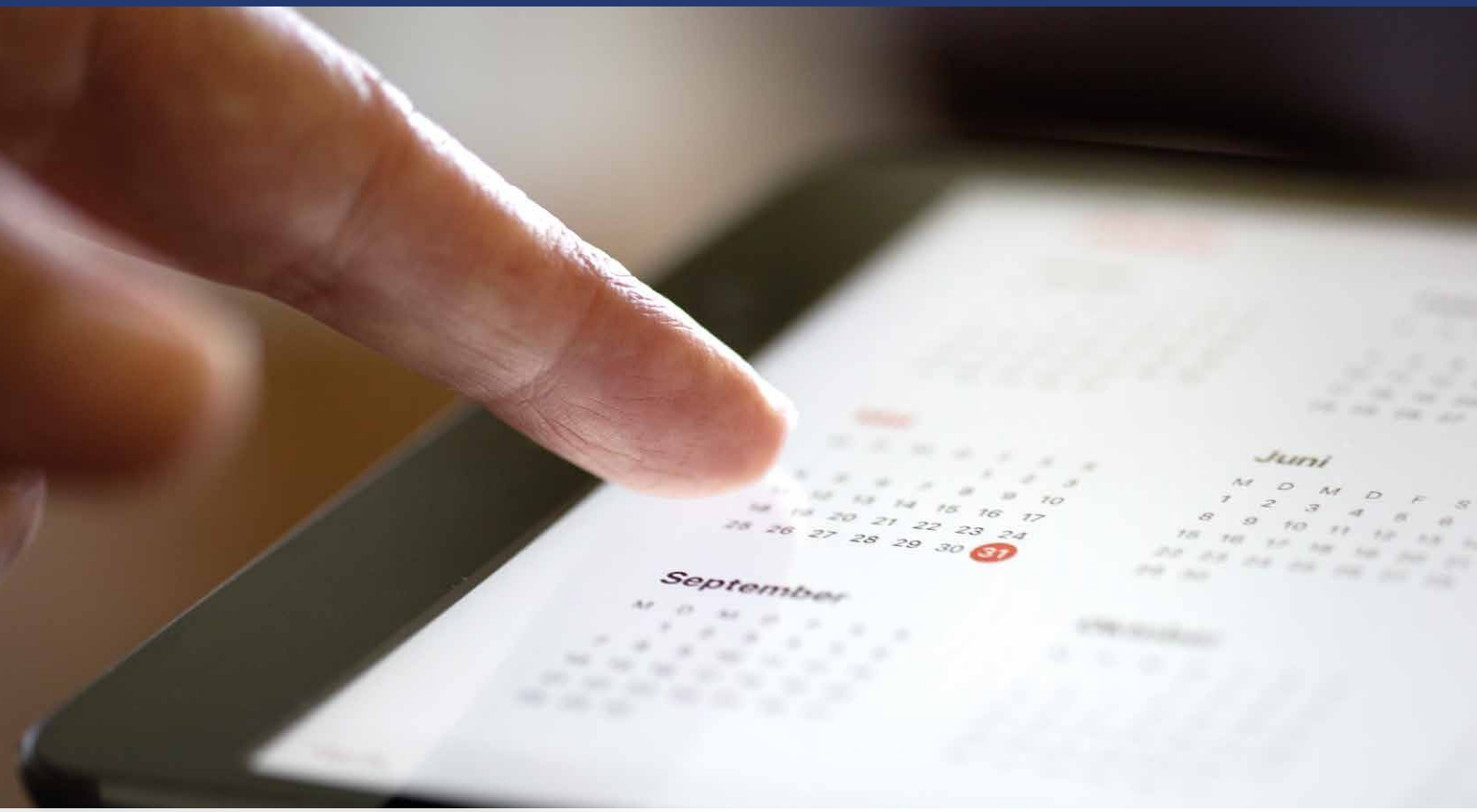
»Digitalization enables new business models, creates new service opportunities and redefines existing products. This transforms our economy towards software realized added values in an unprecedented way. Hence, the capabilities of efficiently developing high quality software are becoming crucial for nearly for all enterprises. In our Master´s program accordingly we concentrate on software engineering, software quality, in particular security, cloud service engineering and AI.«

Engineering Modules

EM 1	Digital Platforms		
EM 2	Software Engineering		
EM 3	Process & Knowledge Engineering		
EM 4	Security & Privacy Engineering		
	Specialization		**Specialization**
EM 5	Digital Services	EM 5	Autonomous Robotics

Key Facts

Part-Time Master´s Program, English-Taught, Duration of 20 Months



Job-Compatible Format and an Ideal Work-Study Balance

Part-Time, English-Taught, Duration of 20 Months

Academic Degree

Master of Science (M.Sc.) from the KIT

Accreditation

The KIT is system-accredited by AAQ.

All HECTOR School master programs are accredited by the internal quality assurance system of the KIT.

Admission Requirements

A first academic degree: e.g. Bachelor, Master or Diploma

At least 1-2 years work experience (depending on the level of the first degree, recommended > 3 years)

If English is not your mother tongue nor has it been the language of instruction for the last five years, language proficiency is required, e.g. test certificate (e.g. TOEFL score of at least 570 PBT; 230 CBT; 90 iBT or IELTs at least 6,5 points) or appropriate proof of C1 level.

Program Structure

Part-time, 10 x 2-week modules

Duration of approx. 20 months

Master thesis = project work in the company

5 Engineering and 5 Management Modules

Teaching language: English

Yearly program start: October

Job-Compatible Format and an Ideal Work-Study Balance

September 2022

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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05	06	07	08	09	10	11
12	13	14	15	16	17	18
19	20	21	22	23	24	25
26	27	28	29	30		

October 2022

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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MM1		05	06	07	08	09
09	10	12	13	14	15	16
17	18	19	20	21	22	23
24	25	26	27	28	29	30
31						

November 2022

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EM1		16	17	18	19	20
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28	29	30				

December 2022

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January 2023

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EM2		11	12	13	14	15
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23	24	25	26	27	28	29
30	31					

February 2023

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MM2						

March 2023

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27	28	29	30	31		

April 2023

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MM3		19	20	21	22	23
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May 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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29	30	31				

June 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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EM3		14	15	16	17	18
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July 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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EM4		19	20	21	22	23
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31						

August 2023

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28	29	30	31			

September 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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04	05	06	07	08	09	10
MM4		13	14	15	16	17
18	19	20	21	22	23	24
25	26	27	28	29	30	

October 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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EM5		25	26	27	28	29
30	31					

November 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
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13	14	15	16	17	18	19
20	21	22	23	24	25	26
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December 2023

Mon	Tue	Wed	Thu	Fri	Sat	Sun
				01	02	03
MM5		06	07	08	09	10
11	12	13	14	15	16	17
18	19	20	21	22	23	24
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Welcome Event
MM Management Modules
EM Engineering Modules
Exams
Please note: Dates are subject to change.

Crash Courses

Nov 07–11, 2022: 5-day seminar in Selected Topics of "Electrical Engineering" or "Thermodynamics, and Fluid Mechanics"

Nov 11–12, 2022: 2-day seminar in "Probability and Statistics"

The academic calender for each program starts annually in October.
It consists of 10 modules, each with a duration of 2 weeks.
All programs conclude with a master thesis.

>> **Master Thesis ISEM, FE:** 6 months project work

>> **Master Thesis MPD, POM, MSEM, EEM:** 9 months project work

Project Work on Master Thesis	Regular		Earliest
Start	January 1, 2023	/	November 1, 2022
Completion by	June 30, 2023	/	April 30, 2023
Completion by	September 30, 2023	/	July 31, 2023

Time Schedule Thesis

You can start your thesis earliest after completing 8 modules. Latest start of your thesis is after your 10th module. The thesis must be completed after 6 months for ISEM and FE, and after 9 months for MPD, POM, MSEM and EEM.

Timetable

Internationality is Key

Benefit From a Vivid Intercultural Exchange

Become Part of a Strong Global Multi-Industry Community

International Orientation for Global Success

During your time at the HECTOR School, you will advance in the three dimensions of technology knowledge, management skills and personal development. In addition to the professional topics taught at the HECTOR School, the international environment plays an essential role. Grow prfoessionally and interpersonally together with your fellow students. Experiences from working in different countries and industries and cross-cutting projects will enrich your use cases during your studies - and your entire future working life.

Experience the World Through Global Modules

To provide our participants with global relevant internationality and insights from experts in their field, some of the Master's programs include a module abroad.

Get Insights Into the World's Most Emerging Economy: China

Global production structures, mechanisms and networks are shaping more and more industries. China in particular is a gigantic and diverse market with enormous dynamism - but also full of its own challenges. At the KIT spin-off Global Advanced Manufacturing Institute (GAMI) in Suzhou Industrial Park, near Shanghai, participants of the Master´s program „Management of Product Development" and „Production and Operations Management" will have the opportunity to experience the development of industry 4.0 and AI.

Get Inspired by Innovations From the ESADE Business School in Spain

The Business School ESADE (Escuela Superior de Administración y Dirección de Empresas) in Barcelona is ranked among the best in Educational Experience, Entrepreneurship and Professional Development. In the Management Module „Corporate Innovation & Intrapreneurship" of the Master´s programs „Energy Engineering and Management" and „Mobility Systems Engineering and Management", innovation is viewed as a holistic system. Participants benefit from the first-class innovation forge and grow even closer together through their stay in Spain.

Global Network of Industry Partner & Peers

HECTOR School participants come from all over the globe. This fosters intercultural exchange with other professionals. Due to the holistic approach HECTOR School participants share the management modules with peers from different industries and backgrounds. This guarantees a worldwide and interdisciplinary network lasting a lifetime.

After graduation, the HECTOR School offers a professional network with alumni activities, reaching from social media channels to alumni meetings in cooperation with exclusive industry partners.

Become a HECTOR School Master

Leadership Know-How for Demanding Careers

»I have lively memories of my application interview for the HECTOR School and Prof. Kai Furman's promise: „We will make you push your limits."
An inspiring international environment, people from different industries and working fields, and the link to a state-of-the-art understanding of production and logistic systems provided me with a solid basis for the progression of my professional career. A challenging and enriching experience – promise kept!«

Stefan Oehmke

Master in Production & Operations Management
EVP Business Unit DRIVE Solutions at Vibracoustic SE & Co. KG

»Studying at the HECTOR School was exactly the right decision. Besides the studies themselves, the network makes the HECTOR School unique. Through the studies, new friendships have formed and even years later you have the opportunity to be connected through the alumni program and always meet new, exciting people. In the meanwhile, my co-workers are studying at the HECTOR School.«

Britta Daffner

Master in in Information Systems Engineering and Management (former SME)
Practice Leader, Data & Technology Transformation at IBM

Voices
More Alumni

HECTOR School Academy

Lifelong Learning Partner with Compact Qualification Formats

Tailor-made Further Education programs

For Managers, and Engineers

Customized lifelong learning solutions form one of the key competencies of the HECTOR School. Paradigm shifts in technology call for high-end trainings for engineers. Engineers in all industries need a regular update in state-of-the-art technology expertise to secure their personal career path as well as the future technology development of their companies.

The HECTOR School Academy addresses these needs and provides programs to equip employees with specialized training in their specific field.

Companies master the digital transformation with current know-how from a world class university. Further, small groups offer a strong knowledge growth and enhance team building.

With customized trainings for companies lifelong learning is settled. In addition, current scientific expertise in new technologies is taught in a practical way. This is implemented by means of didactics appropriate for adults.

Modern class rooms and living labs: Our further qualification programs combine theoretical and practical elements.

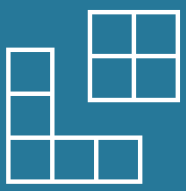
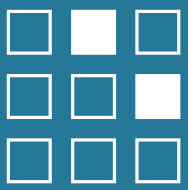
It is crucial to guarantee a high level of planning security for all participants in order to ensure that the demanding further qualification is compatible with the demanding professional environment.

The entire portfolio of the HECTOR School Academy is based on the currently relevant areas of energy, digitalization, industry 4.0 and mobility.

ROLLS ROYCE

»The qualified colleagues are all very contented and dedicate themselves with great enthusiasm and motivation to their mostly new tasks.
The imparting of the professional knowledge at the HECTOR School as well as the perfect organization took a major part in this. We also appreciate very much the constant and open exchange with the team«

Dr. Philippe Gorse
Director Fuel Cell Solutions at Rolls-Royce Solutions GmbH

	Customized Qualifications	Adaptive Further Education Programs	Module Selection	Certificate Courses	Management Impuls	MBA Fundamentals
						
Target Group	Companies that want to realign projects, teams and departments	Engineers, mechanical engineers, computer scientists	Engineers, mechanical engineers, computer scientists	Engineers, mechanical engineers, computer scientists	Upper management	Natural scientists who are pursuing a PhD or having recently started their professional life
Duration	Customizable with a recommended 3-phase setup of 1-2 weeks per phase	2 days per course	2 weeks	3-5 days	1-2 days	5 days per unit
Group Size	Customizable with a recommended 15-20 people	10-25 participants	5-25 participants	5-15 participants	5-10 participants	10-25 participants
Language	English or German	English; individual company requests for lectures in German can be considered	English	English; individual company requests for lectures in German can be considered	English or German	English
Certificate	KIT and HECTOR School certificate after participation. Exam and ECTS credits are available upon request	KIT and HECTOR School certificate after participation. Exam and ECTS credits are available upon request	KIT and HECTOR School certificate after participation. Exam and ECTS credits are available upon request	Certificate from the Karlsruhe Institute of Technology (KIT), correlation: 1-3 ECTS	KIT and HECTOR School certificate after participation	MBA Fundamentals Certificate from Karlsruhe Institute of Technology (KIT)
Extensions	Master´s programs, Management Teaser	The courses are creditable to the corresponding master program	The courses are creditable to the corresponding master program	–	–	Credit points earned in this MBA Fundamentals Program are recognized in international MBA programs
Cost	Individual offer on request	850 EUR per participant per 2 day course	3,500 EUR per participant per module	2,495 EUR per participant per 3 day course 3,500 EUR per participant 5 day course	Individual offer on request	2,100 EUR per participant per unit

Customized Qualifications for Companies

Companies and employees in the process of change

Through a forward-looking re-qualification of engineers, the HECTOR School Academy supports companies with the Customized Qualification program in the transformation process. It focuses in mastering challenges in the KIT areas of expertise: energy, information, and mobility systems. This bond ensures that the participants receive exclusive access to the latest trends in technology and innovation.

Companies are enabled to accelerate the change process with a customized further education approach. The targeted continuing education guarantees a high degree of planning security and a direct transfer into the company.

The HECTOR Schools close cooperation with industry guarantees that the methods taught out in the courses are relevant and pertinent to the needs of the modern workforce.

Topics

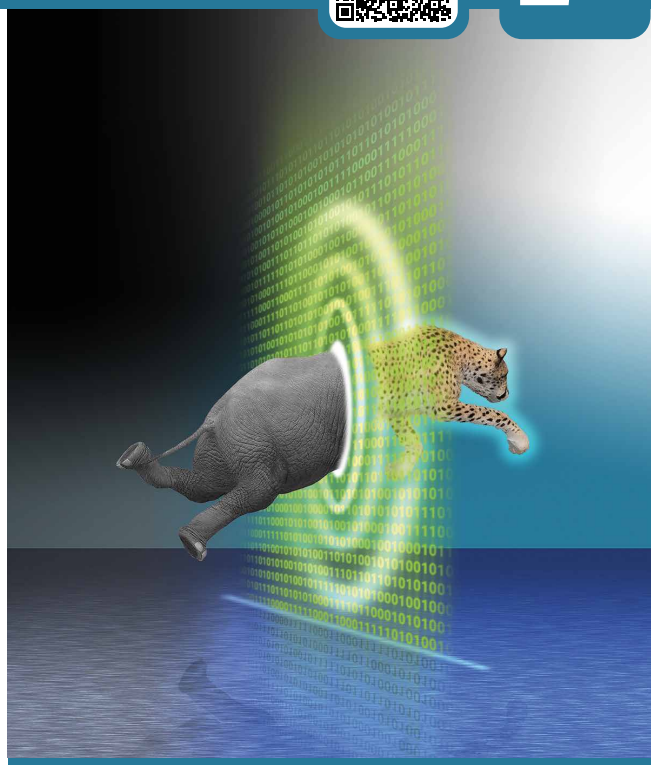
The industry is shifting in general – the HECTOR School Academy leads companies and their employees through these dynamic changes. Encounter solutions to modern day challenges in e-mobility, renewable energies, global production with Industry 4.0 components, and digital transformation.

Methodology

Intensive exchange with lecturers on specific technical topics, together with a classification of these topics into wider contexts to ensure high acceptance and learning success.

Structure

Most Customized Qualifications for Companies follow a three-phase approach: 2 to 3 weeks Basic, followd by 1 to 2 weeks Specialization can be finalized by the Master´s program for the experts (approx. 20 months).



Best Practice Workflow for Your Transformation Projects

Experts
e.g. the top 10% will gain addditional knowledge in engineering and managament topics to lead the digitalization process in the company.

Specialization
e.g. 80% of the basic phase attendees will get further insights to implement the transformation process.

Basic
e.g. a selected group of engineers will be trained in current scientific know-how on new technologies.

Adaptive Further Education Programs

Select courses that meet your professional development needs, in best complement your current skill set

Choose from courses such as driver assistance systems, e-mobility, digital services, autonomous robotics and more.

Understand autonomous and semi-autonomous vehicle systems and the challenges of intelligent systems. Experienced lecturers provide insights into future technologies of this current topic. Gain hands-on experience in our online platooning workshop to experience the latest mobility concepts while learning how to integrate software to control vehicle systems or how to set up an autonomous test drive.

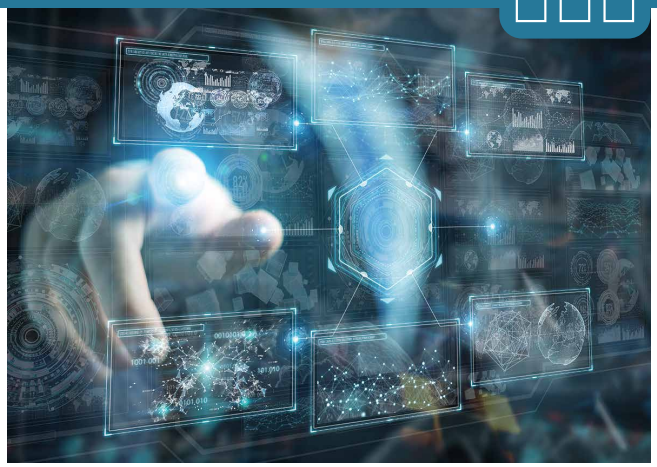
Module Selection

Customize your learning experience through selectable moduls

Through two week modules participants acquire the latest knowledge on exactly the topics that interest them. Select individual modules from a Master's degree program and quickly acquire the skills and competencies you need.

38 topics are available to you!

- **Five topics from Management:**
  Marketing & Information, Finance & Value, Decisions & Risk, Innovation & Projects, Strategy & People
- **Five topics from Production and Operations Management:**
  Collaborative Engineering in Production and Operations Management, Digital Engineering Ecosystems, Operations Research: Decision Making with Discrete and Nonlinear Models, Networks of Supply and Production Systems, Global Production and Distribution Systems
- **Six topics from Information Systems Engineering:**
  Digital Platforms, Software Engineering, Process & Knowledge Engineering, Security & Privacy Engineering, Digital Services, Autonomous Robotics
- **Five topics from Financial Engineering:**
  Digital Financial Markets, Financial Economics for Data Scientists, Machine Learning for Data-Driven Decision Making, Engineering Aspects of Financial Markets, Alternative Data and Machine Learning for Business Applications



- **Three topics from Mobility Systems Engineering:**
  Processes, Methods and Tools of Systems Engineering, Systems Design, Systems Integration and Validation
- **Two topics from Advanced Driver Assistance Systems (ADAS):**
  Functions of ADAS, Components and Technology of ADAS
- **Two topics from E-Mobility:**
  Political and Technical Framework, Components and Technology
- **Five topics from Energy Engineering:**
  Engineering Principles, Renewables, Thermal Energy Conversion, Electricity Generation & Energy Storage, Smart Networks & Energy Distribution, Energy Economics

HECTOR SCHOOL
ACADEMY OF FURTHER EDUCATION

Certificate Courses

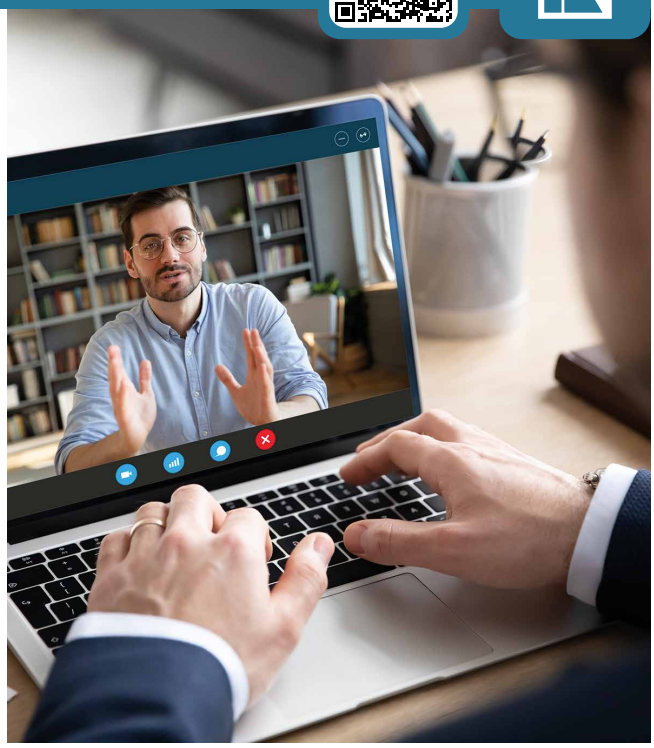
Compact Part-Time Education Formats

In compact 3- to 5-day seminars, professionals get updated with technology expertise directly derived from the latest KIT research. On a high academic level and yet practically oriented, the Certificate Courses qualify engineering professionals in current technology issues. The seminars are offered in four highly topical fields of technology.

International Certificate Courses

In order to provide first-hand insights into specific technological environments and to foster intercultural exchange, the Certificate Courses are not only offered in Germany, but also at various international locations (e.g. in Suzhou/ China).

Organized in cooperation with partner institutions worldwide, HECTOR School equips engineers with high-level special expertise. Current research know-how is conveyed to the participants by using a smart combination of lectures and case studies, either on- or off-site.



Exemplary Fields of the Certificate Courses:

The indicated courses serve as examples. The HECTOR School also offers customized seminars upon request and regularly updates the range of courses.

Industry 4.0
- Smart Manufacturing & Automation with Industry 4.0
- Quality & Supplier Management in China
- Systems & Software Engineering

Digitalization
- Internet of Things: Modern Network Infrastructures
- Information & Knowledge Management
- Digitalization of Service Systems
- Data Science

Mobility
- Technology of Hybrid & Electronic Vehicles
- Digital Signal Processing
- Integrated Photonics
- Charging & Energy Management

Energy
- Renewables Generation & Grid Integration
- Battery Technology
- Electrical Engineering

Management Impulse

Your challenges are our standards

With HECTOR School's Management Impulse, it's now easier to pioneer new technologies and bring employees along for the ride. By working with top researchers and experienced industry experts, we provide the latest updates in technology.

This is how we support executives to create the best possible technology change in their companies. What are the next challenges in the areas of energy transition, digital transformation, globalization, product innovation and automation? - And how do you solve them? With us, you become a thought leader in technology in your company and design your own roadmap.

MBA Fundamentals Program

MBA Fundamentals Program

For Researchers that want to boost their career with management expertise.

This compact MBA Program is characterized by its focus on participants with an natural sciences or engineering background. It provides research-oriented and scientific methods and a high level of flexibility.

Six of the seven units offered can be taken in any order and at any start. Each unit lasts five days and set current management issues in the context of present research and relate them to accepted business practices and solutions.

The units are designed to be taken parallel to the job. And for those who want to go further, the credit points for the MBA Fundamentals Program can be recognized internationally within full MBA programs.

* The course Intercultural Training is not mandatory for the completion of the certificate and do not grant credits. However, participation is strongly advised when completing the full program.

HECTOR SCHOOL
OF ENGINEERING & MANAGEMENT

Contact us
Do You Have Questions? We are looking forward to assisting you.

International Department of the Karlsruhe Institute of Technology (KIT) gGmbH
Schlossplatz 19 | 76131 Karlsruhe/Germany
Phone +49 (0)721-608 47880
Fax +49 (0)721-608 47882
E-mail info@hectorschool.kit.edu
Web www.hectorschool.kit.edu

More about our Services

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