Executive Education for Engineers
Part-time Master Programs & Certificate Courses
Professional development in the sense of lifelong learning, talent management, and human resources development strategies are drivers for the success of globally acting companies in the future. Even highly qualified professionals need a continuous update of know-how, since paradigm shifts in technology develop on a highly frequent level.

Technology & Management Know-how: The holistic approach at one of the best technical universities worldwide makes the difference.

Dr.-Ing. Judith Elsner
Managing Director HECTOR School
Part-time Academic Programs for Professionals
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 the SAP AG. The school envisions 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
With more than 10 years of experience, the HECTOR School strives for sustainable and continuous education on the highest academic level. The growing need for qualified engineers, computer scientists, and economists demonstrates HECTOR School’s vision: sustainable success of our graduates & their companies.

Executive Education @ HECTOR School
4 reasons for the Technology Business School of the KIT

1. Know-How & Technology Transfer from one of the best engineering universities worldwide, the Karlsruhe Institute of Technology (KIT).
2. Competitiveness & Innovation are fostered by our holistic lifelong learning approach, combining technology & management know-how.
3. Power of Networks is supported professionally between academia and industry as well as cross branches worldwide.
4. Part-time Programs guarantee perfect planning for participants as well as for their companies and enable simultaneous study and work.
A Strong Cooperation with Industry
Lifelong learning programs foster innovation and competitiveness

Challenges for Industry
Battle for talents, retaining, employability, talent management: with the focus on lifelong learning in strategic HR development, companies strengthen their image, address current challenges and gain attractiveness for high potentials and professionals.

Advantages for Industry
According to the first results of the Bologna Process, employers need to be aware that Bachelor graduates plan on completing master programs, even after starting their professional careers. By offering clear development structures, companies attract motivated employees and enhance the retaining factor. On the other hand, professionals optimize their competency profile and their employability by participating in continuous education programs. In times of fast changing markets and globally oriented companies, this will be a key factor for personnel career development for companies as well as for the employees.

The advantages of lifelong learning programs in cooperation with universities, given a highly academic yet practical oriented approach, are manifold:

- **Know-How & Technology Transfer**
  Industry benefits from state-of-the-art research findings at KIT. Participants of HECTOR School programs are trained at the highest academic level. They will be interfaces between their companies and KIT. For example, the master thesis for master programs often starts intensive cooperation through joint innovation projects.

- **Competitiveness & Innovation**
  Equipped with scientific methods and state-of-the-art knowledge in their field of technology expertise, combined with management know-how, participants increase the creativity and innovative potential of their company. Professionals will furthermore become prepared for future career steps in executive positions.

- **Power of Networks**
  In times of global and cross-linked markets, a network of international peers and partners is indispensable. HECTOR School graduates will not only gain valuable contacts within KIT but also to an extensive professional network of alumni worldwide.

- **Part-time Programs**
  HECTOR School programs allow their participants to gain high-level academic further qualification while also being able to work. Due to the part-time approach of all programs, professionals can continue their challenging careers.

---

**Portrait of the HECTOR School**
on our YouTube Channel

---

4
HECTOR School: Strategic Partner for DAIMLER Academic Programs

»When establishing the International Department, KIT recognized how important the internationalization of the MINT faculties in Germany would be. For DAIMLER the International Department is an outstanding partner. Especially for our DAIMLER academic program students, we found that the HECTOR School is offering the competences we need to make our company sustainable in the future.«

Dr. Anna-Maria Karl
Head of Global Talent Sourcing, Daimler AG

Examples for companies HECTOR School participants are employed at

ABB AG • Alcatel Transport Solutions Deutschland GmbH • Alcatel-Lucent Deutschland AG • Audi AG • BASF • BASF IT Services GmbH • BBA Bank eG • Behr GmbH & Co. KG • Behr-Hella Thermocontrol GmbH • Blohm+Voss Nordseewerke GmbH • BMW Group • Bombardier Transportation GmbH • Robert Bosch GmbH • Brose • Continental AG • DAIMLER AG • DB Fernverkehr AG • DB ProjektBau GmbH • DZ Bank AG • Eilenmann • El-Khayyat • ELO Digital Office GmbH • EnBW • Endress + Hauser GmbH & Co. KG • Empower Energy Corp. • EUROHYPO AG • Fine Hygienic Paper Co. Ltd/ Nuqul Group • Freescale Semiconductor Inc. • Hikma Pharmaceuticals PLC • Howaldtswerke-Deutsche Werft GmbH • IBM • Karl Dungs GmbH & Co. KG • Krones AG • KSB AG • Landesbank Baden-Württemberg (LBBW) • Lufthansatechnik Hamburg • MAG IAS GmbH • MAN Nutzfahrzeuge AG • MBtech Consulting GmbH • MELEC GmbH • Melexis GmbH • MTU UK Ltd. • Navistar International • OBE, Ohnhmacht & Baumgärtner GmbH & Co KG • P3 Ingenieurbüro für Werktechnik mbH • Parsons Brickerhoff • Porsche AG • PROMATIS software GmbH • Reuters AG • Rexroth Star GmbH • Rothe Erde GmbH • SAMARCO Brazil • SAS Automotive Systems • Schaeffler KG • SEW-EURODRIVE GmbH & CoKG • Sietell • Siemens AG • Telekom AG • Thales Transportation Systems GmbH • ThyssenKrupp Marine Systems AG • ThyssenKrupp Technologies AG • Ti Automotive • T-Systems • Unilever • Vale • Verband der Deutschen Bahnindustrie (VDB) • Vibraconomic GmbH & Co. KG • XING AG

Part-time Master Programs
7 M.Sc. Programs combining Engineering & Management Know-how

Certificate Courses
• Technical Short Courses
• International Technical Seminar Weeks

Partner Programs
• Master in Personalentwicklung
• MBA Fundamentals Program
The HECTOR School offers seven part-time master programs designed for professionals in leading positions. The master programs are more than typical MBA programs, 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 of the Karlsruhe Institute of Technology (KIT).

Leadership Knowhow for Engineers
All programs share five Management Modules providing the participants with general knowledge in finance, accounting, marketing, international multiproject management, international law, human resource management or innovation management. By this they can consider the commercial implications of project decisions.

Technology Expertise: More than just a 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.

Part-time Structure for Professionals
The academic calendar for the Master 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 demanding careers whilst acquiring new skills.

All master programs are taught in English. Over a duration of about 20 months the programs are completed. 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 needs and their specific business environment. Most companies and participants take this opportunity to set up innovation projects as a master thesis and gain outstanding added value through the consultation of such projects by professors from KIT.
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.

Seven Part-time Master Programs
- Production & Operations Management (POM)
- Green Mobility Engineering (GME)
- Management of Product Development (MPD)
- Electronic Systems Engineering & Management (ESEM)
- Energy Engineering & Management (EEM)
- Service Management & Engineering (SME)
- Financial Engineering (FE)

Management Modules within all seven Master Programs
The aim of the 5 Management Modules is to provide in-depth knowledge and understanding of the fundamental concepts that are essential for every successful manager.

Management Modules
- MM 1 International Project Management
- MM 2 Finance for Executives
- MM 3 Business Strategy, Marketing, and Controlling
- MM 4 Human Resource Management (MPD, POM, GME, ESEM)
  - Stochastic and Games (SME, FE)
  - Corporate Innovation and Entrepreneurship (EEM)
- MM 5 Law and Contracts

Master in Production & Operations Management (POM)
"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."
Master in Green Mobility Engineering (GME)

«Even in Central Europe the climate change has become a reality by now. For the future it is therefore increasingly urgent to develop renewable and climate-friendly technologies for individual and public mobility. In order to bring innovative mobility concepts successfully to the market, GME combines technical subjects with economics and legal aspects in a unique way.»

Prof. Dr.-Ing. Martin Doppelbauer
Institute of Electrical Engineering, KIT
Prof. Dr.-Ing. Frank Gauterin
Institute of Vehicle System Technology, KIT
Prof. Dr. Martin Klarmann
Institute of Information Systems and Marketing, KIT

Program Directors

Engineering Modules
EM 1 ICE, Power Train & Energy Storage
EM 2 Electrical Power Train
EM 3 Vehicle Driver Interaction
EM 4 Vehicle Traffic Interaction
EM 5 Success Factors of Green Mobility

Master in Management of Product Development (MPD)

«Product Development is the driver of innovation. In MPD participants 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 will develop the qualification to become the driving force for successful product innovation in your company.»

Prof. Dr.-Ing. Dr. h.c. Albert Albers
Institute for Product Development, KIT
Prof. Dr. Martin Klarmann
Institute of Information Systems and Marketing, KIT

Program Directors

Engineering Modules
EM 1 Design/Validation Process & Information Systems
EM 2 Integrated Product Development
EM 3 Product Generation Development
EM 4 Systems & Cases
EM 5 Multi-technological Systems & Workshops

Master in Electronic Systems Engineering & Management (ESEM)

«Embedded systems are the basis for innovations in all areas of our daily life – in business and in personal life. They are the key players in systems for e.g. autonomous driving, safety alternative propulsion, and industry 4.0. Mechatronics, electronics & software: the need for a holistic approach in those technologies is the challenge for engineers and the innovation processes in industry.»

Prof. Dr.-Ing. Eric Sax
Institute for Information Processing Technology, KIT
Prof. Dr. Stefan Nickel
Institute of Operations Research, KIT

Program Directors

Engineering Modules
EM 1 Processes, Methods & Tools of ESEM
EM 2 Components of Electronic Systems
EM 3 Data Communication Technologies & Systems
EM 4 Implementation & Component Realization (Hard-/Software)
EM 5 System Integration & Validation of Electronic Systems
Master in Service Management & Engineering (SME)

»The future will be a service world. The development of successful strategies, business models and processes adapted to this requires a profound understanding and integration of technological, economical, and societal issues. New technologies, such as cloud computing, big data, web 3.0, or mobile networking, are the basis for engineering & managing innovative smart and secure service systems.«

Engineering Modules
EM 1 Information & Service Management
EM 2 Service Technologies
EM 3 Digital Services
EM 4 Business Processes & Software Engineering
EM 5 Regulations & Economics of Networks

Prof. Dr. Andreas Oberweis
Institute of Applied Informatics & Formal Description Methods, KIT
Prof. Dr. Martin E. Ruckes
Institute for Finance, Banking and Insurance, KIT

Program Directors

Master in Energy Engineering & Management (EEM)

»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 the, e.g., development of capable energy storage systems and an intelligent demand side management. EEM covers all these aspects providing 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

Prof. Dr.-Ing. Hans-Jörg Bauer
Institute of Thermal Turbomachines, KIT
Prof. Dr.-Ing. Mathias Noe
Institute for Technical Physics, KIT
Prof. Dr. Stefan Nickel
Institute of Operations Research, KIT

Program Directors

Master in Financial Engineering (FE)

»Fast-evolving financial markets constantly set new challenges while progress in quantitative tools and computer technology open up entirely new opportunities. The finance industry needs people with an in-depth knowledge of financial theory, mathematical tools, and information technology as well as adequate methods of engineering and management tools – FE perfectly prepares for these requirements.«

Engineering Modules
EM 1 Information & Service Management
EM 2 Global Financial Markets
EM 3 Introduction to Financial Engineering
EM 4 Advanced Financial Engineering
EM 5 Risk Management

Prof. Dr. Marliese Uhrig-Homburg
Institute of Financial, Banking & Insurance, KIT
Prof. Dr. Martin E. Ruckes
Institute for Finance, Banking and Insurance, KIT

Program Directors
**Unique Combination: Management & Engineering**
Part-time, English-taught, duration of 20 months, engineering & management

---

<table>
<thead>
<tr>
<th>Program Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Part-time, 10 x 2-week modules</td>
</tr>
<tr>
<td>• Duration of approx. 20 months</td>
</tr>
<tr>
<td>• 5 Engineering and 5 Management Modules</td>
</tr>
<tr>
<td>• Master thesis = Project work in the company</td>
</tr>
<tr>
<td>• Teaching language: English</td>
</tr>
<tr>
<td>• Yearly program start in October</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th><strong>Academic Degree</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Master of Science (M.Sc.) from the KIT</td>
</tr>
</tbody>
</table>

---

<table>
<thead>
<tr>
<th>Key Facts: Part-time Master of Science (M.Sc.) Programs</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Admission Requirements</strong></td>
</tr>
<tr>
<td>• An academic degree: e.g. Bachelor, Master, or Diploma</td>
</tr>
<tr>
<td>• 1-2 years work experience (depending on the first degree’s level; recommended &gt; 3 years)</td>
</tr>
<tr>
<td>• TOEFL score of at least 230 or 90 iBT</td>
</tr>
</tbody>
</table>

**Accreditation**
All M.Sc. programs are accredited by ASIIN. ASIIN was acknowledged as the first European continental accreditation agency by the Washington Accord (W.A.) in 2003.
A HECTOR School Master: Leadership Know-how for Demanding Careers.

»I have lively memories to my application interview for the HECTOR School and the promise of Prof. Kai Furmans: „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 (POM)
VP Europe, Business Area Chassis Mounts, TrelleborgVibracoustic

Global Network of Industry Partner & Peers

HECTOR School participants come from round the globe. This fosters intercultural exchange with other professionals. Due to the holistic approach of the HECTOR School, participants share the Management Modules with peers from different branches and backgrounds. This will guarantee a worldwide and interdisciplinary network that will last for a lifetime.

International, Diverse, and Sustainable

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.

Alumni Voices on our YouTube Channel
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 branches 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 certificate courses from the HECTOR School address the need of engineers for specialized lifelong learning elements.

**Certificate Courses**
**Technology Know-How in Small Bites**

**Technical Short Courses & International Technical Seminar Weeks**
STATE-OF-THE-ART TECHNOLOGY EXPERTISE WITHIN 3 - 5 DAYS

**Key Facts: Technical Short Courses**

**Program Structure**
3-day seminar, max. 15 participants

**Admission Requirements**
An academic degree (e.g. Bachelor, Master, or Diploma) and > 5 years of relevant work experience recommended

**Academic Degree**
Certificate of the Karlsruhe Institute of Technology (KIT), correlation: 1 ECTS

**Technical Short Courses**
The contents of all 3-day Technical Short Courses are customized and can be adapted to the individual company’s needs. The following are examples of Technical Short Courses currently offered:

- Battery Technology: Where the future goes
- Systems & Software Engineering: Innovative electronic product development
- Renewables & Grid: From generation to integration
- Integrated Photonics: The world of optical communications
International Technical Seminar Weeks

In the Technical Seminar Weeks, organized with partner institutions worldwide, the HECTOR School provides top engineers with high-level special expertise. By using a smart combination of lectures and case studies, either on- or off-site, current research know-how for technology and management topics is conveyed to the participants.

Model of an International Technical Seminar Week: Supplier Development & Quality Management in China

Expert know-how of Chinese market is becoming more and more important for global acting companies. Today, China produces nearly a quarter of global manufacturing output by value. The white heat of China’s ascent has forged supply chains that reach deep into South-East Asia. Therefore, global players continually extend their production sites to China. At the same time, the demand for engineers with highly developed technological know-how and the ability to comply with different on-site requirements is rapidly growing.

The Technical Seminar Week in China provides participants with in-depth insights into the practical implementations in a Chinese production environment and allows for a valuable exchange with professionals and executives working in China.

Certificate Courses

- General QM Methods
- Process Assessment
- Measurement Technology
- Supply & Quality Mgmt in Global Production Networks
- Strategic Supplier Mgmt in China
- Operative Supplier Mgmt in China
- Visits to German & Chinese Companies in the Region of Shanghai/ China

Program Structure
5-day seminar, max. 15 participants

Admission Requirements
An academic degree (e.g. Bachelor, Master, or Diploma) and > 5 years of relevant work experience recommended

Academic Degree
Certificate of the Karlsruhe Institute of Technology (KIT), correlation: 3 ECTS

Our Company Offer:
Customized & in-house
Contact us: admissions@hectorschool.com
Partner Programs
Customized programs for academia and industry

Next to its executive development programs with a focus on technology expertise, the HECTOR School also fosters innovative continuous education programs in cooperation with its academic partners.

**Master in Personalentwicklung - Made for HR**

The part-time master program „Personalentwicklung“ was developed in cooperation with the Institute for Vocational Education and General Education at KIT. It is taught in German.

The success of companies depends first and foremost on the qualification of its employees. To coordinate and develop this potential, well-trained human resource managers are essential. The part-time master with a strong practical approach prepares human resource managers for the takeover of leading functions in industry.

---

**Key Facts: Master in Personalentwicklung**

**Program Structure**
Part-time with block organization over a time period of 5 semesters, taught in German

**Admission Requirements**
HR employees with an academic degree and > 1 year job experience

**Academic Degree**
M.A. from the Karlsruhe Institute of Technology (KIT), correlation: 120 ECTS
MBA Fundamentals Program

The compact MBA program provides an ideal vehicle for providing management expertise and skills in a range of areas. The six units, each lasting five days, set current management issues in the context of present research and relate them to accepted business practices and solutions.

Participants of this program are graduates with a Master or Ph.D. degree in engineering or natural sciences or have business experience (e.g., either in specific fields of engineering, in R&D or development departments in industry), and have started their careers.

In the six units of the MBA Fundamentals Program, participants cover courses in e.g. finance, entrepreneurship, and marketing. 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.

### Key Facts: MBA Fundamentals Program

**Program Structure**
- Part-time with 6 units, 5 days each, taught in English

**Admission Requirements**
- Future executives with an engineering background, Master/ Ph.D. Degree

**Academic Degree**
- Certificate of the Karlsruhe Institute of Technology (KIT), correlation: 18 ECTS (recognized in international MBA programs)

Schedule of MBA Fundamentals Program 2016

- Projects Unit 1
  - International Project Management
  - Financial Accounting
  - Business Ethics

- Values Unit 2
  - Fundamentals of Finance
  - Business Strategy or Decision Analysis

- Markets Unit 3
  - Entrepreneurship
  - Personnel Development & Leadership

- People Unit 4
  - Management Accounting
  - Management of Information Systems

- Information Unit 5
  - Operations Management

- Operations Unit 6
  - Start-Up Companies
  - Intercultural Training

**Total ECTS** 18
Contact us
Do you have questions or need assistance?
Our competent team is looking forward to help you.