



Nano MastersTM
Germanvarsity for Advanced Studies



Mechatronics, Robotics, 5G & Technology Leadership

Opportunity to Become Techno-Management Leaders

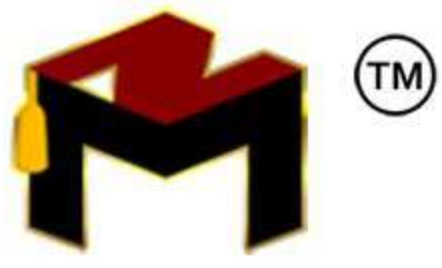
Course Excellences

- Industry Driven Curriculum
- Emerging Fields Focus
- Leadership Development
- Expert Instruction
- Flexible Learning
- Interactive Learning

Content & Certification as per [International](#) and [Indian Skill Missions](#).



GERMAN VARSITYTM
FOR ADVANCED STUDIES



ABOUT



"**NaNo Masters**" is a unique qualification program, designed by Germanvarsity along with German universities and industries, offering international students from partner universities with **cutting-edge knowledge and German equivalent qualifications**. This program equips students for success in **employment and higher education** in Germany, particularly at public universities and top industries.

- **Structure:** Five specializations with four sub-courses with (20 credits).
- **Flexibility:** Credit-based courses run parallel to home university studies (semesters 5-7).
Earn additional honors/minor degrees (subject to home university policies).
- **Benefits:** Gain a competitive edge with **industry-linked programs** and recognition from German employers.
Pursue prestigious Master's programs in German universities with courses delivered & assessed by our partners.

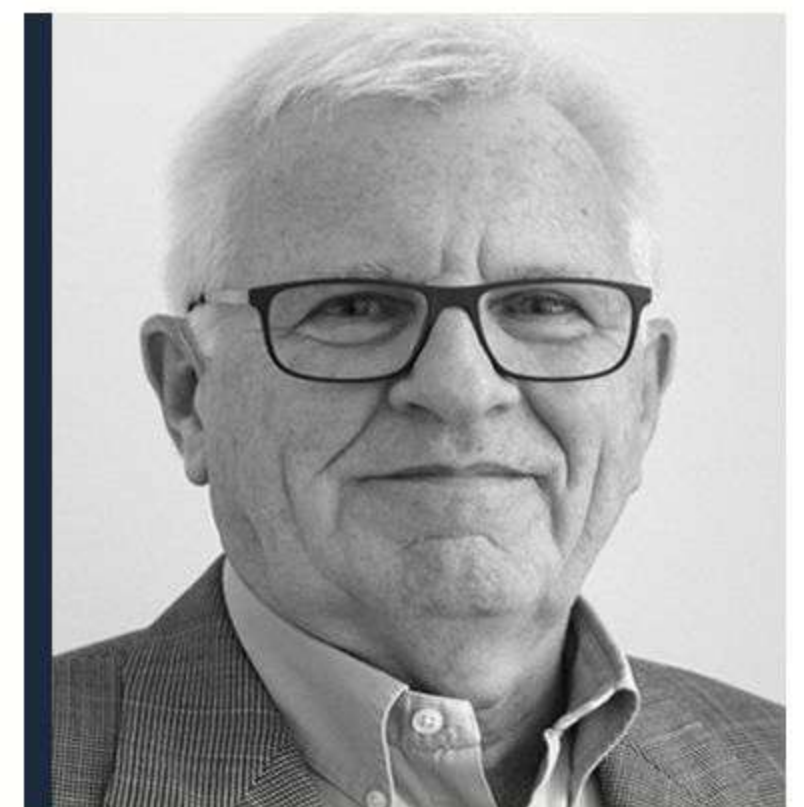
OUR UNIQUENESS

Our goal is to cultivate every engineering student into a Tech - Management Leader. To achieve this, we've implemented a curriculum that equally emphasizes **hands-on technological experience** through capstone projects and strategic thinking through **design thinking and innovation management**. This approach aligns with industry demands in both India and Europe. Initially, we offer this as a specialized minor or honors track for Indian students to acquire in-demand skills. Our long-term vision is to expand course opportunities to Europe by addressing and overcoming cultural barriers.



COURSE RESOURCES

Prof. Günther Starke has **over 40** years of research and industrial automation experience. The professor's specialty includes mechatronics and robotics, sensor technologies, process control, graphical simulation in production engineering, and industrial automation.



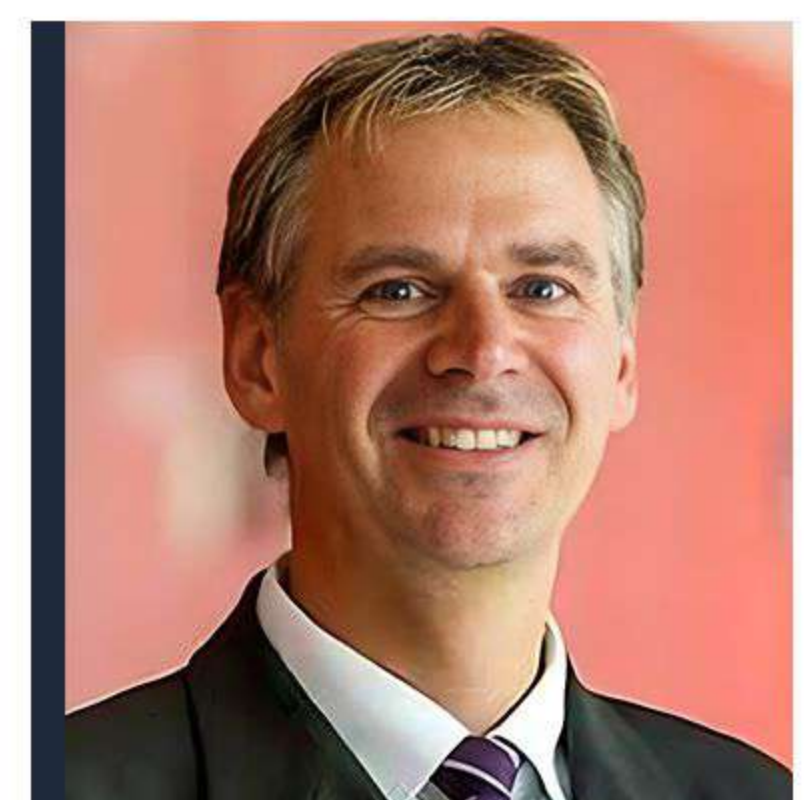
PROF. DR.-ING. GÜNTHER STARKE
RESEARCH DIRECTOR
European Research for Mechatronics,
FH Aachen University, Germany.



PROF. DR. BERTRAM LOHMÜLLER
DIRECTOR
Steinbeis Global Institute Tubingen (SGIT),
Steinbeis University

Prof. Bertram Lohmüller, a seasoned academic with **over 35 years** of experience at SGIT Steinbeis University, directs the Steinbeis Institute for Resource Management and Renewable Energies, which focuses on green technology transfer, innovation management, leadership, and strategic planning.

Prof. Dr.-Ing. Dirk Jacob, a PhD in automated micro-assembly, has been Vice President for Teaching and Professional Development at Kempten University of Applied Sciences since 2016, where he teaches and does research on factory automation and robotics.



PROF. DIRK JACOB
VICE-PRESIDENT TEACHING AND PROFESSIONAL DEVELOPMENT
Kempten University of Applied Science

COURSE MODULE OVERVIEW

PART - 1

MODULE

01

DESIGN THINKING

- Introduction into the course and clarification of the project work
- Introduction into Ideation & Design thinking
- Ideation & Design Thinking Part 1
- Ideation & Design Thinking Part 2
- Ideation & Design Thinking Part 3
- Methods of Idea Evaluation Part 1 + Discussion of project work
- Methods of Idea Evaluation Part 2
- Discussion of project work
- Methods of Idea Evaluation Part 3
- Colloquium project work

MODULE

02

INNOVATION LEADERSHIP

- Basics of innovation Part 1
- Basics of innovation Part 2 +Introduction to the E-Learning Modules
- Basics of innovation Part 3
- Where ideas come from Part 1
- Where ideas come from Part 2
- Where ideas come from Part 3
- Group work project/case study
- Presentations of the project work results
- Group work project/case study
- Group work project/case study

PART - 2

MODULE

01

MECHATRONICS AND FUNDAMENTALS OF ROBOTICS

- Introduction to Robots and Mechatronics – History
- Mechanical Design and Kinematic structures
- Drive Systems and Power Transmissions
- Axis Motion control – one axis
- Robot Control
- Robot Programming
- Low - cost Automation – Applications
- IGUS robots – applications and case studies
- IGUS robots – applications and case studies
- IGUS + Sensor controls

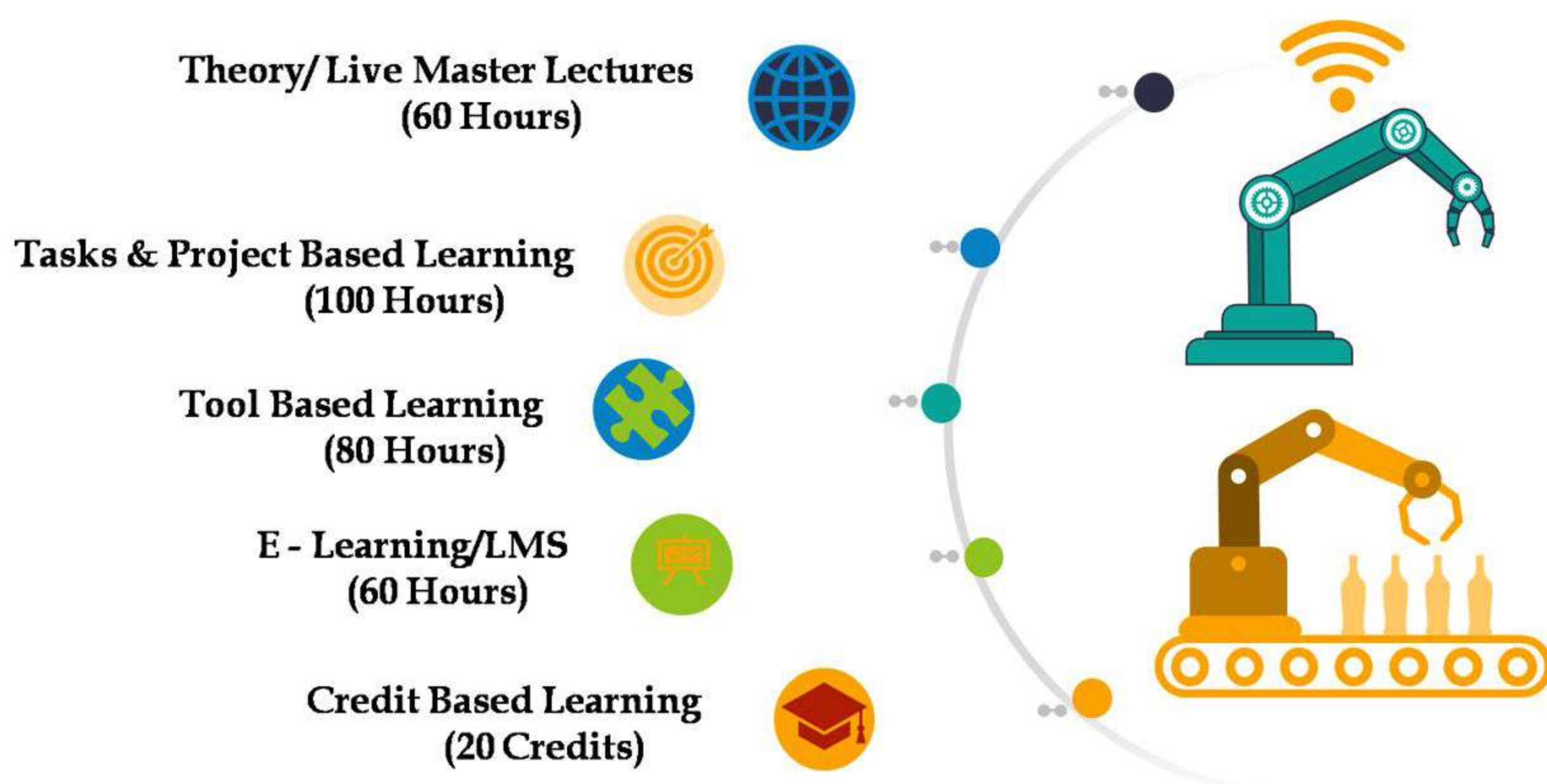
MODULE

02

APPLICATION OF INDUSTRIAL ROBOTICS AND INTRO TO 5G

- IR Kinematic Calculations - 1
- IR Kinematic Calculations - 2
- IR applications – Performance
- Safety Issues with Robots
- Sensors
- IR applications – Accuracy
- IR Applications - 1
- IR Applications - 2
- IR Applications - 3
- Human Robot Collaboration – Cobots

COURSE STRUCTURE



COURSE ACCREDITATION & CERTIFICATION

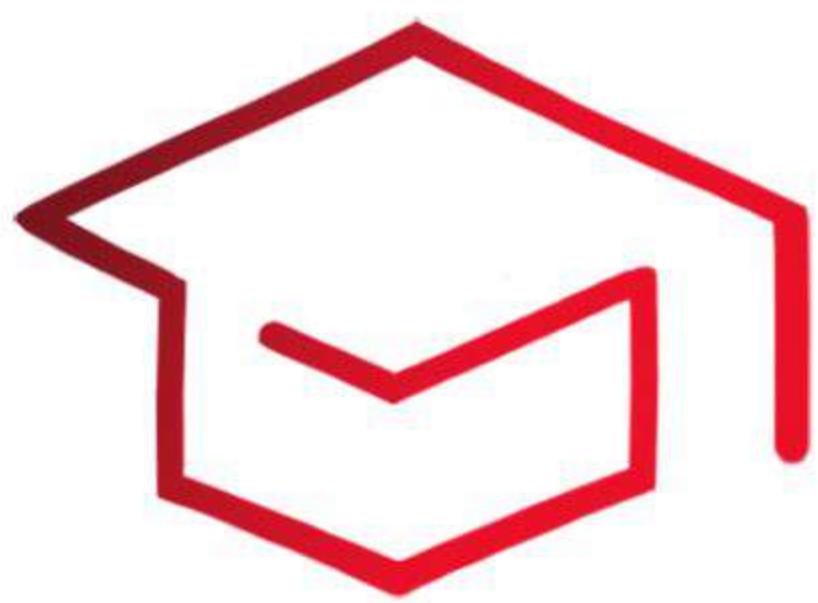


International

GermanVarsity have adopted **ESCO** (European Skills, Competences, and Occupations) standards for the content and certification processes.

National

Course, is accredited and certified by **ESSCI** and **MEPSC**, Government of India.



GERMAN VARSITYTM

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INDIAN OFFICE LOCATIONS

