



**RWTHAACHEN
UNIVERSITY**

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TGGS

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Website

The Sirindhorn International Thai-German Graduate School of Engineering (TGGS)
<http://www.tggs.kmutnb.ac.th>

Communications Engineering Program
<http://ce.tggs.kmutnb.ac.th>

Electrical Power and Energy Engineering Program
<http://epe.tggs.kmutnb.ac.th>

Software Systems Engineering Program
<http://sse.tggs.kmutnb.ac.th>

TGGS International Programs:

Mechanical and Process Engineering Department

International Master Programs:

- Chemical and Process Engineering Program (CPE)
- Mechanical and Automotive Engineering Program (MAE)
 - Minor:** Mechanical Engineering Simulation and Design (MESD)
 - Minor:** Automotive Safety and Assessment Engineering (ASAE)
- Materials and Production Engineering Program (MPE)

International Doctoral Program:

- Mechanical Engineering Program
- Chemical and Process Engineering Program
- Materials and Production Engineering

Electrical and Software Systems Engineering Department

International Master Program:

- Electrical and Software System Engineering (ESSE)
 - Minor:** Communications Engineering (CE)
 - Minor:** Electrical Power and Energy Engineering (EPE)
 - Minor:** Software Systems Engineering (SSE)
 - Minor:** Smart Grids Engineering (SGE)

International Doctoral Program:

- Electrical and Software Systems Engineering Program

The Sirindhorn International Thai-German Graduate School of Engineering (TGGS)

King Mongkut's University of Technology North Bangkok (KMUTNB)
1518 Pracharat 1 Road, Wongsawang, Bangsue,
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บัณฑิตวิทยาลัยวิศวกรรมศาสตรนานาชาติสิรินธร ไทย-เยอรมัน (TGGS)

มหาวิทยาลัยเทคโนโลยีพระจอมเกล้าพระนครเหนือ (มจพ.)

1518 ถ.ประชาราษฎร์ 1 วงศ์สว่าง บางซื่อ กรุงเทพมหานคร 10800

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Thai-German
Graduate School
of Engineering

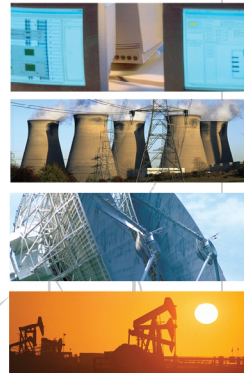
Industry-Oriented Graduate Education and Research in Thailand based on the RWTH Aachen Model

Electrical and Software System Engineering

วิศวกรรมไฟฟ้าและระบบซอฟต์แวร์

Master of Engineering Program in
Electrical and Software System Engineering

- Language of Instruction: English
- Duration of the Program: Two years



The Sirindhorn International Thai-German Graduate School of Engineering (TGGGS)

The Sirindhorn International Thai-German Graduate School of Engineering (TGGGS) provides industry-oriented graduate engineering education and research in Thailand based on the RWTH Aachen Engineering educational model. It is a public private partnership venture for engineering education, technology development and research collaboration.



Course Description

The master of engineering program in Electrical and Information Engineering at TGGGS offers the research and education opportunities in the field of communication systems, power electronics, energy conversion and software systems:

Communications Engineering focuses on in-depth theoretical and practical knowledge in modern communication technologies both from hardware oriented aspects (frontend technology, microwave and high speed digital circuits, embedded system for communication) and from the protocol and software oriented side (e.g. signal processing, coding).

Electrical Power and Energy Engineering focus on high voltage equipment and asset management of electrical asset, power grid analytics, synchrophasor applications and reliability aspects as well as electric vehicle, battery testing and renewable energy.

Software Systems Engineering focuses on the study of modern industrial software that is usually a part of complex systems with connections to application specific environments and special hardware.

Smart Grids Engineering Focuse on the study operation and management of modern electricity grids, including advanced metering infrastructure CAME; distributed resources and generation, data management and analysis, modern power grid analytics, cyber security, and other related technologies.



Curriculum

| Year | Courses | Credits | | | |
|----------------------------------|--|---------|---|---|---|
| 1 1st Semester | | | | | |
| | Industrial Research Methodology | 3 | 3 | 3 | 3 |
| | Microwave Components and Circuit Design | 3 | | | |
| | Communication Protocols | 3 | | | |
| | Mobile Radio Systems | 3 | | | |
| | High Voltage Engineering | | 3 | | |
| | Electrical Power Systems | | 3 | | |
| | Energies for Electrical Power Generation | | 3 | | |
| | Efficient Algorithms | | | 3 | |
| | Software Engineering | | | 3 | |
| | Embedded Software | | | 3 | |
| | Modern Power Grid Analytics and Operations | | | | 3 |
| | Advanced Metering Infrastructure | | | | 3 |
| | Power System Data Managements and Analyses | | | | 3 |
| | General Elective / Specific Elective / | 3 | 3 | 3 | 3 |
| | Other Elective Course | 3 | 3 | 3 | 3 |
| 2nd Semester | | | | | |
| | Advanced Mathematics in Electrical Engineering | 3 | 3 | 3 | 3 |
| | Specific Elective Course | 3 | 3 | 3 | 3 |
| | Specific Elective Course | 3 | 3 | 3 | 3 |
| | Specific Elective Course | 3 | 3 | 3 | 3 |
| | General Elective / Specific Elective Course | 3 | 3 | 3 | 3 |
| Total Credits | | | | | |

Tuition Fees

| | |
|------------------------|--------------------------|
| Thai Students | 60,000 Baht per semester |
| International Students | 85,000 Baht per semester |

Scholarships

For qualified students who need financial aids, the TGGGS coordinators and leadership will make a serious effort to organize scholarships from industries or government organizations.



Entrance Requirements

Bachelor Degree in Communications Engineering, Electrical Engineering Computer Engineering or related Fields awarded by an internationally recognized university with a minimum GPA of 3.00 (or 2.75 with adequate experience), good reading, writing and communication skills in English. To obtain the TGGGS M.Eng. Degree, TOEFL 525+ or equivalent has to be passed within 2 years following the registration.



Prospects

During their terms of study at TGGGS, outstanding students may have the opportunity to do their internships and theses in Germany.

Graduates will be of great interest to a wide range of industries, as they are not only well versed in fundamental principles, but will also have learnt to apply these principles to real industrial problems. For those who want to continue their study abroad, it is very likely to be accepted by leading international universities, particularly those in Germany.