

## Entrance Requirements

- Bachelor Degree in Communications Engineering, Electrical Engineering, Computer Engineering or related fields awarded by internationally recognized university with a minimum GPA of 3.00 (or 2.75 with adequate experience), good reading, writing and communication skills in English.
- English proficiency test has to be submitted with the application form (TOEFL, IELTS, K-STEP, CU-TEP)

## Graduation Requirements

- Publication as part of thesis work in international conference/ journal
- TOEFL 525+ or equivalent
- GPA no less than 3.00

## 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.



## Contact

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The Sirindhorn International  
**TGGGS**

Thai-German  
Graduate School  
of Engineering

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

## Smart Grids Engineering (SGE)



Master of Engineering Program in  
Electrical and Software Systems Engineering  
(International Program)

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

## About 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

- Dynamic optimization of grid operations and resources, with full cyber-security
- Distributed resources and generation
- Demand response, demand-side resources, and energy efficiency resources
- Technologies that optimize the operation for metering, communications concerning grid operations, and distribution automation
- Advanced electricity storage and peak-shaving technologies
- Communication and interoperability of appliances and equipment connected to the electric grid, including the infrastructure serving the grid.

## Curriculum

Semester	Course	Credits
1	Industrial Research Methodology	3
	Advanced Mathematics	3
	in Electrical Engineering	
	Modern Power Grid Analytics	3
	and Operations	
	Advanced Metering Infrastructure	3
	Power System Data Management	3
	and Analysis	
2	Elective Course	3
	Elective Course	3
	Elective Course	3
	Elective Course	3
	Elective Course	3
3	Industrial Internship	4
4	Master Thesis	12
	Total Credits	46

## 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 serious efforts to organize scholarships from industries or government organizations.

## Elective Course Description

- Asset Management and Substation Automation
- Renewable Energies and Electrical Vehicle Technology
- Communication Protocols for Smart Grids
- Communication Systems for Smart Grids
- Internet of Things
- Cyber Security for Smart Grids
- Advanced Topics in Smart Grid Engineering
- Special Problems in Smart Grid Engineering
- Industrial Research Methodology
- Microwave Components and Circuit Design
- Communication Protocols

## Laboratory

- Smart Grid Research Center
- Asset Management of Electrical Systems and High Voltage Laboratory
- Power Grid Analytics Laboratory
- Energy Conversion Laboratory
- Mobile Communications and Embedded Systems Laboratory
- Communication Networks Laboratory
- RF & Microwave Laboratory
- Enterprise Software Research Center
- Image Processing Laboratory
- Smart Systems Laboratory