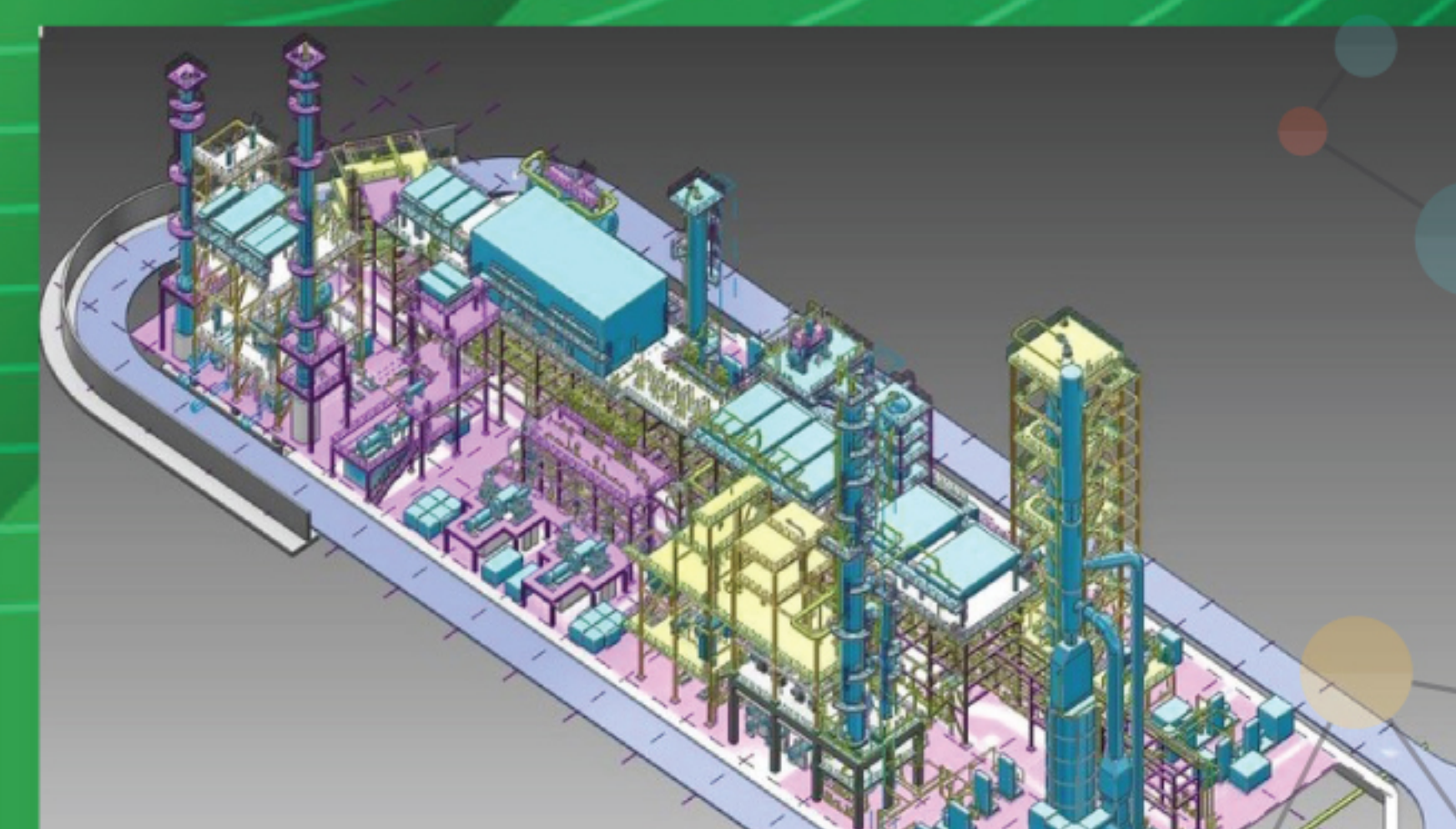


- Language of Instruction: **English**
- Duration of Master Program: **2 years**



### Contact Details

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### Websites

**The Sirindhorn International Thai-German Graduate School of Engineering**  
<https://tggs.kmutnb.ac.th>

**Chemical Engineering and Management**  
<https://cem.tggs.kmutnb.ac.th>

**Catalysis and Reaction Engineering Laboratory**  
<https://catre.cpe.tggs.kmutnb.ac.th>



### TGGS International Programs

#### International Master Programs:

- Chemical Engineering and Management (CEM)**
- Mechanical and Automotive Engineering (MAE)**  
Minor: Mechanical Engineering Simulation and Design (MESD)  
Minor: Automotive Safety and Assessment Engineering (ASAE)
- Materials and Production Engineering (MPE)**
- Electrical and Computer Engineering (ECE)**  
Minor: Communication and Smart System Engineering (CSE)  
Minor: Electrical Power and Energy Engineering (EPE)  
Minor: Computer Engineering (COM)  
Minor: Smart Grids Engineering (SGE)
- Railway Vehicles and Infrastructure Engineering (RVIE)**  
Minor: Railway Vehicles Engineering (RVE)  
Minor: Railway Infrastructure Engineering (RIE)

#### International Doctoral Programs:

- Chemical Engineering and Management**
- Mechanical and Automotive Engineering**
- Materials and Production Engineering**
- Electrical and Computer Engineering**

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

The Sirindhorn International Thai-German Graduate School of Engineering (TGGGS) is a public-private partnership established with strong support from the Thai and German government for engineering education, technology, innovation, and business development in Thailand and South-East Asia. Its industry-oriented engineering master and doctorate education concept combines teaching and research based on the successful model of RWTH Aachen University, Germany, one of Europe's leading technical university.

### Course Description

The curriculum of CEM program is designed along the same principles as the RWTH Aachen University German version, at the same time adapted to support the industrial development in Thailand. It is meant to create postgraduate engineers not only with hands-on knowledge, but also with research skills and competencies for chemical industry.

For master degree, CEM offers two study plans as follows.

- 1. Plan A1:** Research only. This study plan is specifically designed for those who have some industrial experience and wish to emphasize on research and development. The students taking this plan will conduct research entirely for four semesters. Although coursework is not compulsory, they may be encouraged to sit-in some courses that will assist in their research work.
- 2. Plan A2:** Coursework, Internship and Thesis. This intensive study plan is suitable for those who wish to master advanced knowledge as well as engineering skills and work competencies. The students will take ten advanced courses in the first year to strengthen their fundamental knowledge. In the second year, the students will learn how to apply their knowledge in a project-based internship and industrial research project.



### Curriculum

Year	Course	Credits
1	<b>1<sup>st</sup> Semester</b>	
	Industrial Thermodynamics and Simulation	3
	Heterogeneous Kinetics and Catalysis	3
	Elective Course I	3
	Elective Course II	3
	Elective Course III	3
2	<b>2<sup>nd</sup> Semester</b>	
	Analysis and Simulation of Transport Phenomena	3
	Techno-Economic Assessment and Due Diligence	3
	Strategic and Sustainable Business Model Development	3
	Elective Course IV	3
	Elective Course V	3
3	<b>3<sup>rd</sup> Semester</b>	
	Industrial Internship (18 weeks)	4
4	<b>4<sup>th</sup> Semester</b>	
	Master Thesis	12
<b>Total Credits</b>		<b>46</b>

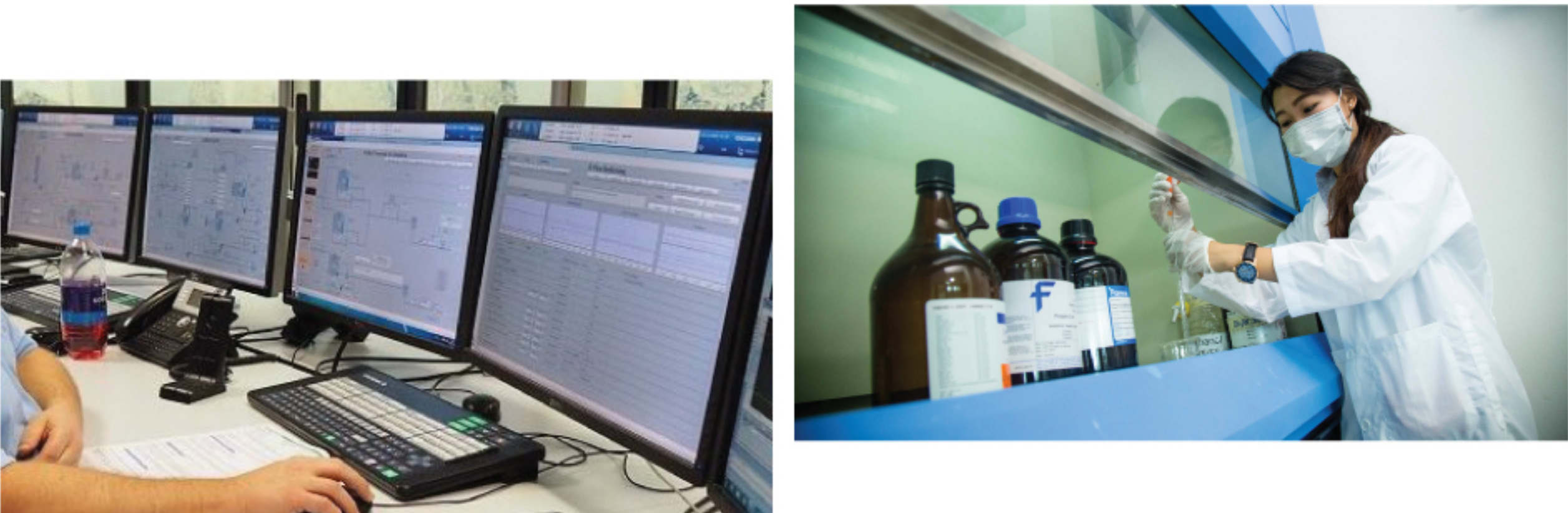
#### Elective Course: (3 credit each)

Integrated Separation Technology, Energy Technology and Management, Biorefinery, Strategic Process Design and Management, Chemical Product Design, Seminar on Modern Aspects of Chemical and Process Engineering, Selected Topics in Chemical Engineering I, and II

### Prospects

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



### Tuition Fees

Thai and International Students 60,000 Baht per semester

\*Only pay full tuition fees for 4 semesters. Student on fifth semester and onward only pay 10,000 THB to maintain student status.

### Scholarships

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

Please find updates of available scholarships at:  
[www.cem.tggs.kmutnb.ac.th](http://www.cem.tggs.kmutnb.ac.th)

