Contact Details

Mechanical Engineering Simulation and Design

Assoc. Prof. Dr. Ekachai Juntasaro
Master Curriculum Chairmand,
Coordinator of Mechanical Engineering Simulation and Design
E-mail: ekachai.j@tggs.kmutnb.ac.th

Dr. -Ing. Alexander Brezing
Lecturer and Researcher
E-mail: alex.b@tggs.kmutnb.ac.th

Asst. Prof. Dr. Karuna Tuchinda
Lecturer and Researcher
E-mail: karuna.t@tggs.kmutnb.ac.th

Dr. Ampol Likitchatchawankul
Lecturer and Researcher
E-mail: ampol.l@tggs.kmutnb.ac.th

Automotive Safety and Assessment Engineering

Assoc. Prof. Dr. Julaluk Carmai
Coordinator of Automotive Safety and Assessment Engineering
E-mail: julaluk.c@tggs.kmutnb.ac.th

Asst. Prof. Dr. Saharat Chanthanumataporn
Lecturer and Researcher
E-mail: saharat.c@tggs.kmutnb.ac.th

Dr. Chinnawut Nantabut
Lecturer and Researcher
E-mail:chinnawut.m@tggs.kmutnb.ac.th

Websites

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

Mechanical and Automotive Engineering
https://mae.tggs.kmutnb.ac.th

TGGS International Programs

International Master Programs:

- **Chemical Engineering and Management (CEMP**
- **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)
King Mongkut's University of Technology North Bangkok (KMUTNB)
1518 Pracharat 1 Road, Wongsawang, Bangsue, Bangkok 10800, Thailand

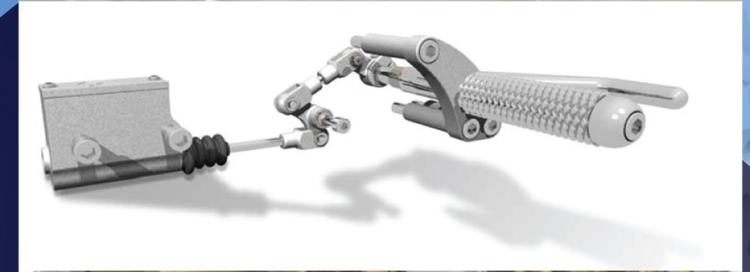
Tel: +66(0) 2555 2000 ext. 2931
Fax: +66(0) 2555 2937
Email: admissions-inter@tggs.kmutnb.ac.th
admission-thai@tggs.kmutnb.ac.th

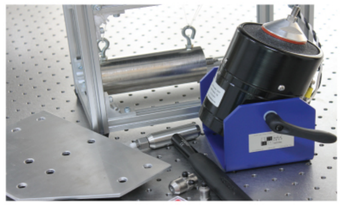
Last update: **25 April 2025**

Mechanical and Automotive Engineering

วิศวกรรมเครื่องกลและยานยนต์

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





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

The Sirindhorn International Thai-German Graduate School of Engineering (TGGS) 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 MAE curriculum consists of two branches MESD and ASAE. The courses have been designed to broaden the students' exposure to recent developments in research and industrial applications.

The **MESD** program serves an industrial need for advanced modelling & simulation skills and the overall methodology to support an efficient and effective product development & design process. MESD graduates can simulate complex multibody & multiphysics problems with maximum accuracy and minimum computing time. Physical experiments & measurements to validate and complement simulations are acquired in MESD's labs and wtih industry or research institutuion partners during internship and thesis stages.

The **ASAE** program serves the automotive industry and the vehicle safety community. It focuses on the fundamentals of vehicle systems and modules, design for crash-worthiness, active and passive safety technologies. The program collaborates closely with the following institutions: IKA RWTH Aachen, VSI TU Graz, Université Gustave Eiffel, IFSTTAR France, Malaysian Institute of Road Safety Research, ASEAN NCAP, Korea Automobile Testing Research Institute (KATRI), Autoliv (Thailand), Thailand Automotive Institute as well as car manufacturers such as Toyota and Mitsubishi

For master degree, MAE offers 3 study plans as follows

Plan A1: Research only. The students study this plan will conduct research entirely for four semesters.

Plan A2: Course work, Internship and Thesis. The students will take 10 advanced courses in the first year. In the second year, the students will do internship and the master thesis.

Plan B: Course work, Internship and Master Project. The students will take 12 advanced courses. In the second year, the students will do internship and the master project.

Curriculum

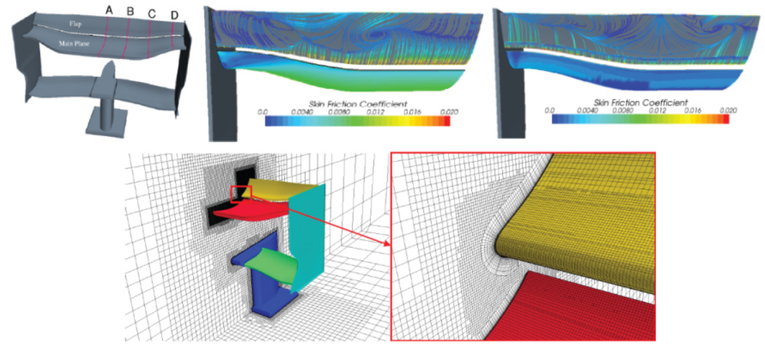
Year	Course	Credits MESD	Credits ASAE
1	1st Semester		
	Computer Aided Engineering Tools I	3	
	Advanced Fluid Mechanics	3	
	Automotive Systems Engineering		3
	Introduction to Vehicle Safety		3
	Finite Element Methods	3	3
	Machine Design Process	3	3
	Research Fundamentals in Mechanical and Structure Engineering	3	3
	2nd Semester		
	Industrial Design Engineering	3	
	Standards and Regulations for Automotive Engineering		3
	Elective Course I	3	3
	Elective Course II	3	3
	Elective Course III	3	3
2	3rd Semester		
	Industrial Internship (18 weeks)	4	4
	4th Semester		
	Master Thesis (Plan A2)	12	12
	Master Project (Plan B)	6	6
	Elective Course (Plan B)	3	3
	Elective Course (Plan B)	3	3
Total Credits			**46**

Elective Courses :
Mechanical Behavior and Degradation, Computer Aided engineering Tools II, Computational Fluid Dynamics, Industrial Quality System for MAE, Special Topics in MAE, Vehicle Crash and Human Body Simulation Techniques, Seminar in Mechanical and Automotive Engineering, Fundamentals of Vehicle and Component Assessments, Industrial Design Engineering,

Prospects

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



Scholarships

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

Please find updates of available scholarships at:
www.mae.tggs.kmutnb.ac.th

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.