

Program specifications of Doctor of Engineering in Electrical and Software System Engineering (revised August 2018)

Degree awarding Institute King Mongkut's University of Technology North Bangkok
Faculty The Sirindhorn International Thai-German Graduate School of Engineering (TGGS)

1. Curriculum name

Thai: หลักสูตรวิศวกรรมศาสตรดุษฎีบัณฑิต สาขาวิชาวิศวกรรมไฟฟ้าและระบบซอฟต์แวร์
(หลักสูตรนานาชาติ)
English Doctor of Engineering in Electrical and Software Systems Engineering
(International Program)

2. Degree title

Full (Thai): วิศวกรรมศาสตรดุษฎีบัณฑิต (วิศวกรรมไฟฟ้าและระบบซอฟต์แวร์)
Abbr. (Thai): วศ.ด.(วิศวกรรมไฟฟ้าและระบบซอฟต์แวร์)
Full (English): Doctor of Engineering (Electrical and Software Systems Engineering)
Abbr. (English): D.Eng. (Electrical and Software Systems Engineering)

3. Program credits

54 Thai CHE credits (research-oriented program without coursework)

4. Program details

4.1	Number of semesters in one academic year	2 semesters
4.2	Number of weeks per semester	16-18 week
4.3	Regular study period	3 years
4.4	Maximum allowable study period	6 years
4.5	Language used in program	English
4.6	Tuition fees	

100,000 THB per semester (for 6 semesters)

100,000 THB per semester x 6 semesters = 600,000 THB for 3-year study period

For further prolonged study from the 7th semester, only registration fees for maintaining the student status of 10,000 THB is charged. (after 3 years but not more than 6 years)

5. Admission

5.1 Admission requirement

- Bachelor degree in engineering or science in relevant fields of Electrical and Software Systems Engineering
- Good English proficiency equivalent to TOEFL 550, IELTS 6.0 or CU-TEP 79-80

5.2 Application documents

The fundamental application documents are in the following,

1. Completion of application form
2. Evidence of qualifications (certificates or transcripts)
3. Evidence of English Language Proficiency test
4. Two Letters of Recommendations in sealed envelopes
5. Curriculum Vitae (CV) or Resume
6. A copy of your identification card or passport
7. Financial statement (only for international student with self-support)

Note that the requirement of application documents is subject to change.

For the most up-to-date required documents, please check the announcement by the academic affairs on the TGGS website

<https://tggs.kmutnb.ac.th/admission/apply-now/>

5.3 Admission process

There are two steps of selection.

In the first step, the application will be assessed on the basis of the submitted evidence by the recruitment committee, consisting of the lecturers of each program.

In the second step, the selected applicants will be scheduled for personal interview by the recruitment committee. For international students, the interview by phone or video call can be arranged. The final selection will be done after the interview process.

For the most up-to-date admission process, please check the announcement by the academic affairs on the TGGS website

<https://tggs.kmutnb.ac.th/admission/apply-now/>

6. Academic collaboration with other international institute

Rheinisch-Westfälische Technische Hochschule (RWTH) Aachen University, Germany

7. Accreditation standard

AUNQA assessment

8. Graduation requirements

1. Passed all required courses within 6 years
2. English proficiency test score equivalent to TOEFL 550, IELTS 6.0 or CU-TEP 79-80.
3. Two publications in international journal
4. Passed the thesis defense examination and submitted the complete thesis.

9. Education philosophy

The educational philosophy of the IDEEE curriculum is the industrial oriented engineering education, which emphasizes on the close linkage between the school and the industry. This linkage between the school and the industry must be present in all elements in the curriculum, i.e. students, lecturer, literature review, research collaboration with industry and Doctoral thesis. The lecturers are encouraged to conduct research projects serving the industry. Additional activities such as public seminar can be created to promote the link to the industry. Experts from industry and RWTH Aachen University are invited as to co-supervise the doctoral students as well. All students will be assigned to involve with the research activities following the industry's needs. This education model can help solving problems from the industry and can lead to innovation as well.

10. Expected Learning Outcomes of Curriculum (ELOs)

Graduates of Doctoral Program in Electrical and Software Systems Engineering are to be educated and the expected skill and ability in the following:

1. Ability to apply stem knowledge (science, technology, engineering and mathematics) for solving advanced problems, conducting advanced researching and building new knowledge in Electrical and Software Systems Engineering
2. Ability to explain phenomena in Electrical and Software Systems Engineering by referring theories in Electrical and Software Systems Engineering
3. Ability to build mathematical models for solving advanced and complicated problems including conducting advanced research and building new knowledge in Electrical and Software Systems Engineering
4. Ability to analyze and find reasons to explain relationships between experimental results and theory in Electrical and Software Systems Engineering
5. Ability to design and build electrical circuits and systems or software and software systems following specific knowledge in Electrical and Software Systems Engineering following applicable specialized knowledge in Electrical and Software Systems Engineering, safety principles in Electrical and Software Systems Engineering and relevant industry standards



6. Ability to demonstrate self-reliance and teamwork skill for managing research projects in Electrical and Software Systems Engineering
7. Ability to demonstrate skills of interpersonal communication and presenting research works in Electrical and Software Systems Engineering to publics
8. Ability to search, review and comprehend international literature in Electrical and Software Systems Engineering by themselves
9. Ability to indicate and show good attitude and professional ethics in Electrical and Software Systems Engineering