

**Regulations for Examination in the Master of Science Programs (REM) of
The Sirindhorn International Thai-German Graduate School of Engineering (TGGS), 2011 (B.E. 2554)**

PREAMBLE

By virtue of clause 22(20) of the University Act of B.E. 2550 (2007), on the 28th Day of May, B.E. 2551 (2007), at the 3/2554(2011) University Council Meeting, King Mongkut’s University of Technology North Bangkok, and based on the Rules and Regulations for International Master Programs at RWTH Aachen, Germany, these regulations are hereby enacted in order to ensure the standardization, quality and direction of the Regulations for Examination in the Master of Science Program of The Sirindhorn International Thai-German Graduate School of Engineering (TGGS), North Bangkok Campus of King Mongkut’s University of Technology North Bangkok (KMUTNB), as well as to be accepted by the Commission on Higher Education of Thailand (CHE).

Article 1 These regulations shall be called “Regulations for Examination in the Master of Science Programs (REM) for the Master Programs of The Sirindhorn International Thai-German Graduate School of Engineering.”

Article 2 The Directors, Thai and German, of The Sirindhorn International Thai-German Graduate School of Engineering are charged with administering these Regulations for Examination and have the authority to issue announcements or alter procedures related to be conformal with these Regulations and will also seek approval for this by the KMUTNB Council.

In the event of any ambiguity in these Regulations for Examination or other problems regarding procedures not specified in these Regulations, the issue should be brought to the Sirindhorn International Thai-German Graduate School of Engineering to be resolved case by case.

Article 3 In these regulations:

“University” means King Mongkut’s University of Technology North Bangkok

“University Council” means King Mongkut’s University of Technology North Bangkok’s Council

“The President/ Rector” means the President of King Mongkut’s University of Technology North Bangkok and the Rector of RWTH Aachen

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

“The Directors” means both the Thai and the German Director of The Sirindhorn International Thai-German Graduate School of Engineering.

TGGS Leadership means administration board of TGGS.

"Graduate Studies" means educational organization and management of The Sirindhorn International Thai-German Graduate School of Engineering for Master Degrees and PhD Degrees.

“Curricula” means any graduate curricula approved by The Council of KMUTNB and by the Rectorate of RWTH Aachen.

"Program" means all graduate programs curricular and regulations offered for the Master Degree Engineering Education approved by the Directors of The Sirindhorn International Thai-German Graduate School of Engineering.

“Program Coordinators” means the Lecturers/Researchers (on the Thai and the German side) who act as the Academic Group Leaders for each program offered and are entitled to do so following the TGGS academic selection procedures.

“TGGS Examination Board” means a committee appointed by The Directors of the Sirindhorn International Thai-German Graduate School of Engineering for the organization of the examination, and for the task assigned to it in these regulations.

“Lecturer/Researcher” means Permanent Lecturer/Researcher of The Sirindhorn International Thai-German Graduate School of Engineering approved by the TGGS academic selection procedures.

“Student” means master level student of The Sirindhorn International Thai-German Graduate School of Engineering.

“External Lecturer” means individual outside The Sirindhorn International Thai-German Graduate School of Engineering who has been approved as qualified to give a lecture according to The Sirindhorn International Thai-German Graduate School of Engineering’s rules.

“Examiner” means TGGS Lecturers/Researchers or external person of high professional standing who has been approved as such by The Sirindhorn International Thai-German Graduate School of Engineering.

I General Issues

§ 1 Objectives of the Master studies and purpose of the master examinations

1) The Master of Science Programs at TGGS intend to provide the students with profound scientific basics, as well as with the knowledge, skills and methods of the engineering science, in each special field of study covered by the TGGS Master Programs, currently a total of eight (8) as listed below.

Mechanical and Process Engineering 1. Automotive Engineering 2. Chemical and Process Engineering 3. Mechanical Engineering-Simulation and Design 4. Materials and Metallurgical Engineering 5. Production Engineering	Electrical and Computer Engineering 1. Communications Engineering 2. Electrical Power and Energy Engineering 3. Software Systems Engineering
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2) The examination process for TGGs Master of Science Degree represents the completion of study on a scientifically and professionally qualified level. The examination is intended to determine whether the examinees have obtained the special knowledge gained for usage in professional practice and associated scientific bodies.

3) The studies are held in English. All written work will be completed in English.

§ 2 Master Degree

If the examination for the Master Degree is passed, TGGs will confer the academic degree of a Master of Science in Engineering, abbreviated 'M.Sc.in (specific program as of §1.....Engineering).'

§ 3 Entry requirements

A recognized first university degree by which the educational background in the field of the Master course is proven. A relevant educational background exists if the degree accounts for a spectrum of subjects and knowledge pursuant to the standards of the German TU9 Group of Technical universities having their joint office in Berlin, Germany (RWTH Aachen, partner of TGGs, is one of those) as well as a particular aptitude for the courses pursuant to §1. Specifically, this implies a bachelor degree in one of the eight engineering fields listed in §1 awarded by an internationally recognized university with a minimum GPA of 3.0 (or 2.75 plus adequate experience), good reading, writing and communication skills in English, successful passing of the TGGs English interview. Only under specific circumstances, applicants with a GPA lower than 2.75 will be taken into consideration, subject to approval by TGGs Leadership.

Remarks: Students have to prove the sufficient command of the English language, which will be achieved by passing TOEFL 525 or Computer TOEFL 196 (Test of English as Foreign Language), or by passing IELTS 5.5 (International English Language Testing System), or passing CU-TEP 525 before graduate and receive a master degree certificates.

§ 4 Regular duration of study, extent of studies, and credits

1) The regular duration of study including the Master thesis amounts to four semesters, but less than five years according to the Ministry of Education Regulation on Graduate Study 2005.

2) The total extent of study of compulsory and elective subjects is 45 weekly lecture hours (WLH) (full hours i.e. 60 minutes; a typical subject has 3 WLH). Additional compulsory subjects must be chosen from a subject list, see Annex I of TGGs Study Rules. Thematically connected courses are combined to modules. A module is completed by an examination. Upon successful completion of the exams, a certain number of credits will be given.

3) Credits are not only given according to the extent of the courses but are also intended to be a measure for the time students must spend on the preparation, follow-up, and examinations of a module.

4) The content of studies comprises of the fundamentals of the subject in each special field of study of the TGGs Master Programs and the technologies used in it.

5) The TGGs Examination board determines the content of studies in these regulations. Noncompliance of these rules can only be exempted in justified exceptional cases and with the consent of the examination board.

§ 5 Examination process and examination periods

1) The examinations for the Master Degree comprises of the elements given in §10.1, which must all be taken concurrently with the studies. The examination process for the Master Degree is supposed to be completed within the regular duration of study laid down in §4.1

2) Registration for all classes and examinations of the semester has to be done at the beginning of the semester.

3) The examination period immediately follows the period of lectures of the respective term and follows the KMUTNB academic calendar of each semester.

4) If the examinee can prove with a doctor's certificate that due to a longer lasting or permanent physical disablement he or she is not able to completely or partly take the examination in the prescribed form, the examination board must, upon application of the examinee, allow him/her to retake examination of equal standard in a different form. The same applies for the approval and documentation.

§ 6 Examination Board

1) TGGs Directors will appoint an examination board to supervise the organization of the examinations (conducted under the responsibility of the TGGs Group Coordinators) and for the tasks assigned to it in these regulations. The examination board will be appointed by the TGGs Directors.

2) The examination board constitutes an administrative body to take care of all aspects of the examinations as outlined in these regulations.

3) The examination board ensures that the provisions of these regulations are adhered to and sees to it that the examinations are properly conducted. In particular, it is the board's responsibility to decide on appeals regarding decisions taken during the examination procedure.

§ 7 Examiner and Co-examiner

1) Lecturers/Researchers act as examiners for their own courses and the thesis work, which they supervise, etc. However, in exceptional cases, the coordinator of each master program can also find examiners and co-examiners, if necessary, who have independently taught in the respective specialized field on the same level of expertise and been approved by the TGGGS Directors.

2) In their examining work, the examiners are independent.

3) The examinee has the right to suggest examiners for the Master thesis and for the oral examinations. If possible, the suggestion of an examinee shall be taken into account. However, suggestions do not constitute a legal claim.

4) If the examiner selected is not the regular course or thesis supervisor, the chairperson is responsible that the examinee is informed of the names of the examiners in time, at least two weeks prior to the date of the respective examination.

§ 8 Crediting of times of studies, study performance and results of examinations, and enrolling into TGGGS semesters.

1) Times of study, study performance, and examination results conducted in the same study program at other universities following the standards of the German TU 9 Group of Technical Universities will be credited once the equal value has been established within TGGGS following the quality standards of its partner RWTH Aachen.

2) Times of study, study performance, and examination results in other study programs or those conducted at academic schools other than the group of universities mentioned in §8.1 will be credited once the equal value has been established within TGGGS following the quality standards of its partner RWTH Aachen. Times of study, study performance, and examination results obtained at universities outside the group of universities mentioned in §8.1 will be credited on application to the examination board, if the equal value has been established. An equal value can be acknowledged if, regarding contents, scope, and requirements, the times of study, study performance, and examinations are essentially equivalent to those of the TGGGS master programs. The value shall not be established by schematic comparison but by applying an overall view and overall assessment.

3) Study performance and examination results which are required for the admission to the master programs will not be credited.

4) The TGGGS Examination board is in charge of the crediting according to §8.1 and 8.2. Before deciding on the equal value, the relevant specialist representatives must be heard.

5) In the case of study performance and examination results being credited, and as far as the grading systems are comparable, grades must be transferred and included in the calculation of the total grade.

§ 9 Absence from an examination, withdrawal, fraud, and violation of regulations

1) The performance in an examination will be marked as 'failed' (0), if the examinee fails to appear at a fixed examination date without acceptable justification or if he/she backs out of the examination without acceptable justification after the examination has started. The same applies if a written examination, for which the students have registered, has not been taken within the respective examination period.

2) The examination board must immediately be notified in writing and must be satisfied of the reasons advanced for the walking out of or missing of an examination. In case of an illness of the examinee, a doctor's certificate is required. In individual cases, the chairperson can demand a doctor's certificate of a medical examiner appointed by the examination board. If the examination board does not accept the reasons, the examinee will be notified in writing.

3) If the examinee tries to influence the results of an examination by fraud, for example, by using unauthorized auxiliary material, the respective examination performance will be marked as 'failed' (0). The fraud will be identified by the respective examiner or by the person responsible for supervision and will go on record. An examinee who interferes with the orderly progress of the examination can be expelled by the respective examiner or supervisor, generally after being given a warning. In this case, the respective examination performance will be marked as 'failed' (0). The reasons for the expulsion must go on record. In severe cases, the examination board can exclude the examinee from taking any further examination.

4) Within 14 days, the examinee has the right to demand that decisions according to § 9.3 are reviewed by the examination board. The examinee must be informed of this right in writing. He/she must be immediately notified of an unfavorable decision in writing.

II Examination process for the Master Degree (Master examinations)

§ 10 Extent and nature of the Master examinations

- 1) The Master examination process consists of
 1. A number of examinations as listed in each program (the Curriculum).
 2. an eighteen-week industrial internship or longer
 3. the Master thesis pursuant to §15 and 16, for details see the respective curricula.

The examination must be taken on the examination date which immediately follow the lecture period of the respective semester, based on KMUTNB Academic Calendar.

- 2) The examinations in program specific subjects consist of either a written test or an oral examination in the subjects or courses indicated in each specific master program (curriculum).
- 3) The topics of the examinations are determined by the contents of the courses assigned to the subjects.
- 4) The format of the examination (written (§ 13) or oral (§ 14)) will be determined for each subject at the beginning of the registration period (§ 5.2)) and announced in the lectures.

§ 11 Admission to the examination process for the Master Degree (Master Examinations)

- 1) Only persons can be admitted to master examinations who
 1. fulfill the entry requirements listed in § 3 REM which
 2. are enrolled in the respective TGGS Master Program
- 2) Student must be registered for courses, internship and thesis in order to take any examinations.
- 3) The topic of the Master thesis can be set if the examinee has fulfilled all admission requirements pursuant to §11.1 and has passed all elements of the Master examinations as listed in related curriculum..
- 4) If the examinee can prove that, without him/her being responsible, it is not possible for him/her to enclose a document required according to §13.1 and 13.2, the examination board may allow him/her, on application, to give the respective proof in a different way.

§ 12 Admission to examination procedure

- 1) The examination board or, pursuant to §6, the chairperson of this board decides on admission to the Master examinations.
- 2) Admission will be refused if:
 1. the requirements listed in § 11.1 are not fulfilled, or
 2. the required documents are not completed, or
 3. the examinee is already undergoing another examination procedure in this or in a comparable course of studies.

§ 13 Test papers written under supervision

- 1) In the test papers, the examinee has to prove that he/she is able to understand a problem posed and find a way to solve it, using the common methods of the subject, within a time limit and with limited auxiliary material.
- 2) The examinee must be given the opportunity to inspect the marked test paper within, at the most, four weeks after publication of the test results.
- 3) The time limit for completing written test papers is a minimum of one and a half hours for subjects with three hours per week of lecturing/ exercises.

§ 14 Oral examinations

- 1) In the oral examinations, the examinee has to prove that he/she sees the larger context of the tested subject and that he/she is able to deal with specific problems within this larger technical context. Additionally, the oral examinations are intended to find out whether the examinee has a broad basic knowledge.

- 2) Oral examinations are held in the presence of at least one examiner and one competent assistant in the form of an examination of a group or an individual. In group examinations, maximally four examinees can be questioned at the same time. In a individual examination, each examinee is questioned in one subject by one examiner only. Before fixing the grade pursuant to §18.1, the examiner must hear the other examiners or the assistant.
- 3) The essential topics and results of the examination in the individual subjects must be written down in examination notes.
- 4) The duration of an oral examination is generally 20-30 minutes per examinee.

§ 15 Master Thesis

- 1) The master thesis has the objective to demonstrate that the examinee is able to handle and solve on a technical-scientific problem of his/her special field in the area of his/her Master Program, with guidance but mainly by him/herself, using scientific methods and doing this within a given time limit.
- 2) The master thesis can be issued and supervised by any TGGs Lecturer/Researcher or RWTH Aachen Professor who is active in research and teaching in this master program. Research Assistants can participate in the supervision. By way of exception and with the agreement of the examination board, the master thesis can be written outside TGGs or outside the RWTH, if it is supervised by one of the persons mentioned above.
- 3) On application of the examinee, the respective TGGs Program Coordinator will support examinees to receive the topic of their master thesis at a scheduled date. The examinee must be given the opportunity to make suggestions for the topic.
- 4) The master thesis has to be written in English.
- 5) The respective TGGs Program Coordinator notifies the examinee of the deadline for handing the thesis in. The date of handing out the master thesis' topic must go on record.
- 6) The time limit for the master thesis is six months. The topic and the specific problem must be of a nature that makes it possible to complete the thesis within this time limit. The topic can only be changed once and only within the first month of working on the thesis (§19 REM). By way of exception, the examination board can prolong the time limit in any individual case once, by up to three months, on justified application by the examinee and with the endorsement of the supervisor who issued the thesis. The master thesis must be finished and related documents submitted for completion at the end of the specified period, otherwise the thesis will be considered as 'failed' (0) (§18.1).
- 7) When submitting the master thesis, the examinee must declare in writing that he/she wrote it on his/her own, that he/she did not use any other than the stated sources and auxiliary means, and that he/she correctly references sources.

§ 16 Acceptance and assessment of the Master thesis

- 1) The Master thesis must be delivered to the supervisor, respectively the examination board, within the deadline. The delivery date must go on record. If the Master thesis is not delivered within the deadline, it will be marked as 'failed' (0) (§ 18.1).
- 2) The Master thesis must be assessed and marked by two examiners. The person who issued the thesis should be one of the examiners, and the research assistant who co-supervised is usually acting also as a co-examiner. Otherwise, the second examiner will be appointed by the chairperson of the examination board. The grading shall be carried out pursuant to §18.1.
- 3) The grade must be made known eight weeks after the respective delivery date, at the latest.

§ 17 Elective subjects

- 1) The examinee can undergo an examination in subjects additional to the compulsory ones (elective subjects), according to the related curriculum.
- 2) The result of the examination in these subjects is included in the transcript and included in the calculation of the total grade.

§ 18 Evaluation of the examination performance, calculation of the grades, and passing of the examination for the Master degree.

- 1) The grades for the individual examinations are given by the respective examiners. The following grades must be used:
A (4.0) = excellent, an excellent performance
B+ (3.5) = very good, a performance considerably above the average requirements

B (3.0) = good
C+ (2.5) = fairly good, above average
C (2.0) = fair, a performance meeting the average requirements

D+ (1.5) = satisfactory, a performance which, despite its shortcomings, still meets the requirements
D (1.0) = just passed
F (0.0) = failed, a performance which, due to considerable shortcomings, does not meet the requirements

2) The grading must be announced after six weeks, at the latest. Notification on notice board will suffice. Data security and privacy issues must be considered.

3) The Master examination is passed if the grade point average (GPA) of all examinations in specialized fields and the grade of the Master thesis are at least 'good' (3.0).

4) The total grade of the passed Master examination results from the weighted arithmetic mean of the grades of the examinations in specialized subjects and the grade of the Master thesis.

5) If students have passed all required master examinations and other graduation criteria as specified in related curriculum, students are eligible to graduate before normal master degree's study period (2 years).

§ 19 Retaking the examinations for the Master Thesis

A new Master thesis can be written once if the first thesis failed. However, a change of the topic of the Master thesis within the time frame specified in §15.6 is only allowed, if the examinee did not make use of this possibility when writing his/her first Master thesis.

§ 20 Invalidity of the Master Examination, adjudication of the Master Degree

If an examinee cheated in an examination and this becomes known only after issuing the certificate, the examination board may subsequently alter the grades for the results of the examinations in which the examinee cheated, accordingly, and it may declare the complete examination or parts of the examination as failed. The consequences of unethical activities of students will be decided based on related KMUTNB student's regulations.

III Supplementary

§ 21 REM official language,

The Thai text of these regulations is the official text, any English translation is an explanatory.

§ 22 Other requirements to graduate with a TGGS master degree

Other requirements for graduation with a TGGS master degree are specified in each related curriculum that has been approved by KMUTNB University Council and Commission of Higher Education (CHE). In case where there are conflicts or discrepancies between requirements in these regulations and the requirements in the official curriculum, the requirements in the officially approved curriculum will be used to resolve all related issues.

§ 23 Conflicts with CHE regulations

In case where these regulations are in conflict with CHE regulations, CHE regulations will be used as a basis for all considerations.

§ 24 Effective date and publication

These regulations become effective for students as of 25th May, 2011 and effective with current students and students whose ID begins with 53 onwards.

These regulations are announced on 16 June, 2011.

Prof. Dr. Kasem Suwannagul
Chairman of KMUTNB Council
