

# MASTER OF SCIENCE PROGRAM IN ENGINEERING AND TECHNOLOGY

## CURRICULUM TITLE

Master of Science Program in Engineering and Technology (International Program)

## DEGREE TITLE

Master of Science (Engineering and Technology)

## ACADEMIC SYSTEM

1. All courses are conducted in English. An academic year is divided into 2 semesters. Each semester consists of 15 weeks. Courses may be offered for a summer semester of at least 8 weeks duration. The total number of lecture hours required for the summer semester is the same as that for the regular semester. Enrollment for summer courses is optional.
2. Curriculum
  - 2.1 Study Plan
    - 2.1.1 Plan A1  
A total of 39 credits of thesis is required for completion of the program.
    - 2.1.2 Plan A2  
This study plan consists of prescribed coursework (12 credits) and thesis (27 credits). A total of 39 credits is required for completion of the program.
  - 2.2 Thesis
    - 2.2.1 Plan A1  
A students can register for a thesis in the first semester.
    - 2.2.2 Plan A2  
A student can register for a thesis after he or she has studied for at least 1 regular semester or has gained 12 credits with a minimum cumulative GPA of 3.00.
    - 2.2.3 Thesis Committee  
The thesis committee must consist of at least 3 members as follows:
      - Principal advisor: The principal advisor must be an SIIT faculty member in a corresponding or related academic program.
      - Co-advisor (if any): A co-advisor must be an SIIT or TU faculty member, or an expert outside TU, with a doctoral degree or equivalent, or with an academic rank of at least associate professor in a corresponding or related academic program.
      - Expert outside TU: The expert outside TU must hold a doctoral degree or equivalent with an academic rank of at least assistant professor, or have an academic rank of associate professor or higher.
      - Other thesis committee members: Other thesis committee members must be SIIT or TU faculty members with a doctoral degree or equivalent, or with an academic rank of associate professor or higher.

The number of thesis committee members who are not the principal advisor or a co-advisor must not be fewer than the number of those who are the principal advisor or a co-advisor.

The number of thesis committee members who are SIIT or TU faculty members must not be fewer than the number of those who are experts outside TU.

The above thesis committee must also serve as the committees for both the proposal and final thesis defenses. However, the chairpersons of both defenses must not be the principal advisor or a co-advisor.

## **GRADUATION REQUIREMENTS**

To graduate, students must meet the following minimum requirements:

### 1. Plan A1

- 1.1 Students must successfully complete 39 credits of thesis.
- 1.2 At least one paper on thesis results must have been accepted for publication in a reputable international journal approved by the Academic Review and Rank Assessment Committee. The following alternate requirements may be used: one national journal paper (accepted) and one national conference paper in proceedings (accepted), or one international conference proceedings paper (accepted and registered for presentation) and one national journal paper (submitted).
- 1.3 Approval of the thesis by Thesis Committee, and passing a thesis defense.
- 1.4 Having satisfied one of the following English proficiency requirements:
  - A TOEFL score of not less than 550 (paper-based), or 213 (computer-based), or 79 (internet-based) or Institutional TOEFL 550
  - An IELTS score of not less than 6.5
  - A TU-GET score of not less than 550
  - A TOEIC score of not less than 750 and pass an English efficiency evaluation by an SIIT native English speaker
  - "P" Grade in TU005 English1 and TU006 English2

Exemption: An applicant who is a native English speaking student from Australia, Canada, New Zealand, United Kingdom, or USA may be exempted from the above English proficiency requirements if he/she passes an interview by an SIIT interviewing committee consisting of 3 English native speaking instructors.

### 2. Plan A2

- 2.1 Twelve credits of courses (see the course descriptions) with a GPA of at least 3.00 or equivalent.
- 2.2 Twenty seven credits of thesis with grade "S".
- 2.3 At least one paper on thesis results must have been accepted for publication in a reputable international journal approved by the Academic Review and Rank Assessment Committee. The following alternate requirements may be used: one national journal paper (accepted) and one national conference paper in proceedings (accepted), or one international conference proceedings paper (accepted and registered for presentation) and one national journal paper (submitted).
- 2.4 Approval of the thesis by Thesis Committee, and passing a thesis defense.
- 2.5 Having satisfied one of the following English proficiency requirements:
  - A TOEFL score of not less than 550 (paper-based), or 213 (computer-based), or 79 (internet-based) or Institutional TOEFL 550
  - An IELTS score of not less than 6.5
  - A TU-GET score of not less than 550
  - A TOEIC score of not less than 750 and pass an English efficiency evaluation by an SIIT native English speaker
  - "P" Grade in TU005 English1 and TU006 English2

Exemption: An applicant who is a native English speaking student from Australia, Canada, New Zealand, United Kingdom, or USA may be exempted from the above English proficiency requirements if he/she passes an interview by an SIIT interviewing committee consisting of 3 English native speaking instructors.

# CURRICULUM

## 1. Total Credits Requirement

- 1.1 Plan A1, a total of 39 credits is required for completion of the program.
- 1.2 Plan A2, a total of 39 credits is required for completion of the program.

## 2. Structure and Components

<b>2.1 Plan A1</b>	
<b>Thesis</b>	<b>39 Credits</b>
<b>2.2 Plan A2</b>	
<b>2.2.1 Compulsory Courses</b>	<b>6 Credits</b>
<b>2.2.2 Compulsory Elective Course</b>	<b>3 Credits</b>
<b>2.2.3 Elective Course</b>	<b>3 Credits</b>
<b>2.2.4 Thesis</b>	<b>27 Credits</b>
<b>Total</b>	<b>39 Credits</b>

## 3. List of Courses in the Curriculum

	<i>Credits (lecture-practice-self study hours)</i>
<b>3.1 Plan A1, 39 credits</b>	
ES800 Thesis	39
<b>3.2 Plan A2, 39 credits</b>	
3.2.1 Compulsory Courses, 6 credits	
ES603 Special Study	3(3-0-9)
ES605 Research Methodology	2(2-0-6)
ES606 Research Seminar	1(1-0-3)
3.2.2 Compulsory Elective Course, 3 credits	
Select one of the following courses:	
ES601 Advanced Engineering Mathematics	3(3-0-9)
ES611 Theory of Computation	3(3-0-9)
ES612 Advanced Business Statistics	3(3-0-9)
ET600 Numerical Methods for Engineers	3(3-0-9)
ICT600 Computational Mathematics	3(3-0-9)
SE600 Decision Making and Optimization	3(3-0-9)
3.2.3 Elective Course, 3 credits	
ES604 Selected Topic	3(3-0-9)
3.2.4 Thesis, 27 credits	
ES800 Thesis	27