

Course Detail
Master of Science Program in Earth System Science

Course Title:	Master of Science Program in Earth System Science (International Programme)
Master Degree:	Master of Science (Earth System Science)
Academic Institution:	The Interdisciplinary Graduate School of Earth System Science and Andaman Natural Disaster Management (ESSAND), Faculty of Technology and Environment, Prince of Songkla University Phuket Campus
Duration:	2 years (July 2020 – June 2022)
Background and Rational:	

The Interdisciplinary Graduate School of Earth System Science and Andaman Natural Disaster Management (ESSAND) was established as an international graduate program in 2014, aiming to contribute to the prevention and management of various environmental and disaster problems of the Andaman region as well as other areas. Since then, ESSAND has produced a high level of research and educational outputs, accepting international students from different parts of the world and obtaining research grants in and out of PSU.

Considering more contributions to its location, ESSAND sets their main study themes as “environmental and disaster research towards sustainable tourism development”:

1. Environmental research towards sustainable tourism development: As uncontrolled conventional tourism development has posed serious potential threats to many tourism destinations including Phuket, leading to the deterioration of their attractions, ESSAND will do environmental research to detect, evaluate, and improve negative factors of tourism development using advanced data science-based environmental analysis methods.
2. Disaster research towards sustainable tourism development: As more disasters have been observed due to global environmental changes and such disasters brings both temporary and lasting financial damages to tourism, which is seriously critical to tourism destinations, ESSAND will do disaster management research to clarify, prevent and prepare potential disasters and their negative impacts to tourism destinations using advanced data science-based disaster-related scientific and management methods.

These two main study areas are to be pursued with international and interdisciplinary research collaborations and post-graduate education of international standards

Objective:

- A. Educational outcomes - advanced human resources with splendid knowledge and skills in related fields who can serve as higher governmental officials, technical influencers to enterprises and communities, and academic researchers and educators in related fields
- B. Research outcomes - indispensable knowledge and wisdom of environment and disaster for sustainable tourism development
- C. Social outcomes - valuable information, evidence, and suggestions to policymakers of environmental and disaster issues

Course Synopsis and Methodology

Study Plan

Plan A-1

Total credits: 36

- Course Works (2 courses) S/U credits
- Pre-Research Course (2 courses) S/U credits
- Thesis 36 credits

Plan A-2/1

Total credits: 36

- Course Works (4 courses) 12 credits
- Course Works (1 courses) S/U credits
- Thesis 24 credits

Plan A-2/2

Total credits: 36

- Core Courses (5 courses) 15 credits
- Elective Course (1 courses) 3 credits
- Special Studies (1 courses) S/U credits
- Thesis 18 credits

Course Content/Study Topic

1) Core Courses

964-501	Earth System Science
964-502	Data Sciences for Earth Science and Disaster Management
964-503	Disaster Risk Management
964-504	Research Methodology
964-505	Scientific Tools for Research

2) Elective Courses

2.1) Earth Science Module

964-511	Geo-Mechanics Characterization
964-512	Exploration Geophysics
964-513	Environmental Modeling and Management
964-514	Marine Biotechnology
964-515	Environmental Toxicology
964-516	Selected Topic of ESS & NDM II
979-531	Advanced Remote Sensing

2.2) Disaster and Management Module

964-521	Hazard Mitigation
964-522	Investing in environmental and disaster management
964-523	Life Cycle Sustainability Assessment
964-524	Selected Topic of ESS & NDM I

979-572	Policy Planning and Participatory Approach
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2.3) Technology and Technique Module

964-531	Sensor Technology and the Internet of Things
964-532	Data Management and Knowledge Discovery
964-533	Selected Topic of ESS & NDM III
979-532	Geographic Information System

2.4) Pre-Research Module

964-601	Special Study I
964-602	Special Study II

3) Thesis

964-701	Thesis
964-702	Thesis
964-703	Thesis

- All courses are conducted in English. Selection of course works is advised by the thesis advisor.

Graduation Conditions:

Plan A-1

- Have completed all required courses of the curriculum.
- Have passed the thesis proposal defense.
- Have passed the thesis final defense.
- Have the thesis published or have obtained acceptance of publication for a paper in a journal listed in the ISI or Scopus databases.
- Have satisfied one of the following English proficiency requirements:
 - IELTS test score 5.5 or higher overall for the Academic Test or
 - TOEFL test score:
 - For the TOEFL IBT 59 or higher or
 - For the TOEFL Paper-Delivered Testing:
 - Reading 10 or higher, and
 - Listening 9 or higher, and
 - Writing 18 or higher
 - For the TOEFL ITP:
 - Listening Comprehension 50 or higher, and
 - Structure & Written Expression 60 or higher, and
 - Reading Comprehension 52 or higher
 - CU-TEP score not less than 75
 - PSU-TEP score not less than 68

Plan A 2-1

- Have completed all required courses of the curriculum with GPA > 3.00.
- Have passed the thesis proposal defense.
- Have passed the thesis final defense.

- Have the thesis published or have obtained acceptance of publication for a paper in a journal listed in the first two upper groups of the TCI database.
- Have satisfied one of the following English proficiency requirements:
 - IELTS test score 5.5 or higher overall for the Academic Test or
 - TOEFL test score:
 - For the TOEFL IBT 59 or higher or
 - For the TOEFL Paper-Delivered Testing:
 - Reading 10 or higher, and
 - Listening 9 or higher, and
 - Writing 18 or higher
 - For the TOEFL ITP:
 - Listening Comprehension 50 or higher, and
 - Structure & Written Expression 60 or higher, and
 - Reading Comprehension 52 or higher
 - CU-TEP score not less than 75
 - PSU-TEP score not less than 68

Plan A 2-2

- Have completed all required courses of the curriculum with GPA > 3.00.
- Have passed the thesis proposal defense.
- Have passed the thesis final defense.
- Have the thesis published or have obtained acceptance of publication for a paper in a full paper of international proceeding.
- Have satisfied one of the following English proficiency requirements:
 - IELTS test score 5.5 or higher overall for the Academic Test or
 - TOEFL test score:
 - For the TOEFL IBT 59 or higher or
 - For the TOEFL Paper-Delivered Testing:
 - Reading 10 or higher, and
 - Listening 9 or higher, and
 - Writing 18 or higher
 - For the TOEFL ITP:
 - Listening Comprehension 50 or higher, and
 - Structure & Written Expression 60 or higher, and
 - Reading Comprehension 52 or higher
 - CU-TEP score not less than 75
 - PSU-TEP score not less than 68

Application Qualifications

Plan A-1

- The applicant must hold:
 - A bachelor's degree within the 1st quartile or
 - Must have an experience in publications and/or a good quality of senior project.
 - The applicant must submit a TOEFL or an IELTS or official English test scores.

- Other applicants may be admitted on conditions that they receive approval from the program committee.
- The applicant must submit a TOEFL or an IELTS or official English test scores.

Plan A-2-1

- The applicant must hold:
 - A bachelor's degree within top 50 percent
 - A graduate diploma with cumulative GPA not less than 3.50 or
 - A graduate certificate with cumulative GPA not less than 3.75 or
 - After entering the program, the GPA in the first semester must not be less than 3.25; Otherwise, the student has to switch to Plan A-2/2 degree program
 - The applicant must submit a TOEFL or an IELTS or official English test scores.
 - Other applicants may be admitted on conditions that they receive approval from the program committee.
- The applicant must submit a TOEFL or an IELTS or official English test scores.

Plan A-2-2

- The applicant must hold
 - A bachelor's degree within three upper quartiles
 - A graduate diploma with cumulative GPA not less than 3.25 or
 - A graduate certificate with cumulative GPA not less than 3.50 or
 - Other applicants may be admitted on conditions that they receive approval from the program committee.
- The applicant must submit a TOEFL or an IELTS or official English test scores.

Document Required

- A statement of purpose and CV. The statement of purpose should contain the followings.
 - Your general information.
 - Your purpose in graduate study.
 - The area of study in which you wish to specialize.
 - Your future use of your graduate study, your career goals.
 - Your special preparation and fitness for study in the field. Your academic background, extracurricular experiences/achievements, and awards.
 - Any problems or inconsistencies in your academic records. Indicate the areas that are your weak points or those needed improvement.
- A copy of citizen ID card/passport
- Please submit a copy of each of your publication(s), if any.

Contacts

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***The application procedure will complete when TICA has received the hard copy of the application form and other related documents through the Royal Thai Embassy/Permanent Mission of Thailand to the United Nations/Royal Thai Consulate – General accredited to eligible countries/ territories.