



**INTERDISCIPLINARY GRADUATE SCHOOL OF EARTH SYSTEM SCIENCE AND
ANDAMAN NATURAL DISASTER MANAGEMENT**

PRINCE OF SONGKLA UNIVERSITY, PHUKET, THAILAND

www.essand.psu.ac.th



Doctor of Philosophy Program in Earth System Science

<p>Curricular Title Doctor of Philosophy Program in Earth System Science</p> <p>Degree Title Doctor of Philosophy (Earth System Science)</p> <p>Abbreviation Ph.D. (Earth System Science)</p> <p>Curricular Philosophy and Goals The Doctor of Philosophy Program in Earth System Science aims to produce graduates, who are fully equipped with high-level knowledge and research skills in the field of Earth System Science, and can create new knowledge and integrate interdisciplinary knowledge for preventing and solving natural disaster problems and managing natural resources and environment. Global change has occurred rapidly. Natural resources and environment have been degraded quickly. Natural disasters become more intense and occur more often globally leading to invaluable economic, environmental, and social losses. Environmental and natural disaster problems are major causes that threaten global development in many aspects. Understanding these issues requires the integration of knowledge across many disciplines. Developing new knowledge and technologies that will help solve these problems are the goals of this curriculum.</p> <p>Admission Requirements 1) The applicant must hold</p> <ul style="list-style-type: none"> ▪ a bachelor's degree within the 1st quartile or ▪ a graduate certificate with cumulative GPA not less than 3.75 or ▪ a graduate diploma with cumulative GPA not less than 3.50 or 	<ul style="list-style-type: none"> ▪ a master's degree with cumulative GPA not less than 3.50 or ▪ must have a senior project or research study with very good quality. ▪ All above must be obtained from universities approved by the PSU Interdisciplinary Graduate School Committee (IGSC). ▪ Other applicants may be admitted on conditions that they receive approval from the PSU Interdisciplinary Graduate School Board. <p>2) The applicant must submit a TOEFL or an IELTS score.</p> <p>Curriculum Structure Study Plan 1.1 (for students entering with a Master's degree) Total credits: 48</p> <ul style="list-style-type: none"> ▪ Selected Topics (2 courses) S/U credits ▪ Special Studies (2 courses) S/U credits ▪ Thesis 48 credits <p>Study Plan 1.2 (for students entering with a Bachelor's degree) Total credits: 72</p> <ul style="list-style-type: none"> ▪ Selected Topics (2 courses) S/U credits ▪ Special Studies (2 courses) S/U credits ▪ Thesis 72 credits <p>All courses are conducted in English. Selection of selected topic and special study courses is advised by the thesis advisor.</p>
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<p>Selected Topic Courses</p> <ul style="list-style-type: none">▪ 964-101: Earth System Science▪ 964-102: Natural Hazards and Disasters▪ 964-103: Satellite Meteorology▪ 964-104: Applied Geology▪ 964-105: Introduction of Geomechanics▪ 964-106: Exploration Geophysics▪ 964-107: Advanced Remote Sensing▪ 964-108: Advanced Geographic Information System▪ 964-109: Electromagnetic Waves▪ 964-110: Applied Probability▪ 964-111: Spatial Analysis▪ 964-112: Advanced Spatial Statistics▪ 964-113: Spatial Decision Support Systems▪ 964-114: Managerial Economics▪ 964-115: Statistical Analysis▪ 964-116: Selected Topics of ESS I▪ 964-117: Selected Topics of ESS II▪ 964-118: Environmental Toxicology▪ 964-119: Life Cycle Sustainability Assessment <p>Special Study Courses</p> <ul style="list-style-type: none">▪ 964-201: Special Study I▪ 964-202: Special Study II <p>Thesis</p> <ul style="list-style-type: none">▪ 964-302: Thesis ; Credits:48(0-144-0)▪ 964-303: Thesis ; Credits:72(0-216-0) <p>Thesis Committee</p> <p>The thesis committee is composed of at least 5 members, including an advisor (Chairman of the committee), a co-advisor, two faculty members, and an external examiner. In the thesis defense, thesis advisors cannot answer questions and vote for the student.</p>	<p>Main Thesis Advisor</p> <p>The main thesis advisor must be programme's lecturer and must have Ph.D. degree or Associate Professor at least, and have 3 academic achievements in last 5 year. At least one achievement must be a research and the papers must not be from his/her thesis work.</p> <p>External Examiner</p> <ul style="list-style-type: none">▪ The External Examiner is assigned by the PSU Interdisciplinary Graduate School Board.▪ The thesis committee proposes two candidates to the PSU Interdisciplinary Graduate School Board as soon as the student completes all required courses. The board chooses one to serve as the External Examiner.▪ The External Examiner's academic qualification has to be at least Associate Professor, and has published at least two papers in journals listed in the first two upper quartiles of the ISI database.▪ The External Examiner can veto the quality of the thesis. <p>Thesis Final Defense Committee</p> <p>The thesis final defense committee consists of the same members as the thesis committee.</p> <p>Graduation Requirements</p> <ol style="list-style-type: none">1. Have completed all required courses of the curriculum.2. Have passed the qualifying examination.3. Have passed the thesis proposal defense.4. Have passed the thesis final defense.
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5. Have the thesis published or have obtained acceptance of publication with the first author for 2 papers, where a paper has to be in a journal listed in the ISI database and the other paper has to be in a journal listed in the Scopus database or first two upper groups of the TCI database.

6. Have satisfied one of the following English proficiency requirements:

- IELTS test score 6.0 or higher overall for the Academic Test or
- TOEFL test score:
 - For the TOEFL IBT 78 or higher or
 - For the TOEFL Paper-Delivered Testing:
 - Reading 13 or higher, and
 - Listening 15 or higher, and
 - Writing 22 or higher
 - For the TOEFL ITP:
 - Listening Comprehension 55 or higher, and
 - Structure & Written Expression 63 or higher, and
 - Reading Comprehension 56 or higher
- CU-TEP test score 80 or higher or
- PSU-TEP test score 73 or higher

Faculty Members Responsible for the Program

- Dr. Avirut Puttiwongrak
 - D.Phil. (Environment and Resource System Engineering) from Kyoto University
 - Responsible courses: 964-101, 964-102, 964-104, 964-105, 964-106, 964-116, 964-117, 964-201, 964-202, 964-301, 964-303
- Dr. Kritana Prueksakorn
 - Ph.D. (Environmental Engineering) from Changwon National University, S. Korea
 - Responsible courses: 964-101, 964-116, 964-117, 964-119, 964-201, 964-202, 964-302, 964-303

- Prof. Dr. Kiyota Hashimoto
 - D.Eng. (Information Science) Nara Institute of Science and Technology, Japan
 - Responsible courses: 964-101, 964-116, 964-117, 964-119, 964-201, 964-202, 964-302, 964-303
- Dr. Tanwa Arpornthip
 - Ph.D. (Experimental Physics) from University of Virginia, USA
 - Responsible courses: 964-101, 964-116, 964-117, 964-119, 964-201, 964-202, 964-302, 964-303