

THE SPACE TECHNOLOGY AND GEO-INFORMATICS PROGRAM AT NARESUAN UNIVERSITY, THAILAND

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ABSTRACT:

Naresuan University (NU), located in Phitsanulok, Thailand, was named after King Naresuan the Great and serves as a provider of higher education for nine provinces in the lower northern region (Phitsanulok, Phichit, Nakonsawan, Kamphangphet, Sukhothai, Phetchaboon, Tak, Uttradit, and Uthaitani Provinces), along with Phayao Province. Naresuan University is a comprehensive university offering more than 58 undergraduate and 55 graduate programs. In 2005, the Graduate School will open a new Masters Degree (Plan A and Plan B) consisting of two programs in the field of Space Technology and Geo-Informatics (program I) and Sustainable Development (program II). The major core course of program I consisted of particular required course 9 credits and elective courses in Plan A, Form A(2) are not less than 3 credits and in Plan B are not less than 9 credits. The program II is involves Sustainable Development which the major core courses consisted of particular required course 6 credits. The elective courses in Plan A, Form A(2) are not less than 6 credits and in Plan B are not less than 12 credits. For Plan A, graduate students must take courses work for 26 credits and prepare a thesis for 12 credits. For Plan B, graduate students must take course work of 32 credits and conduct an Independent Study project for 6 credits. The degree awarded will be a Masters of Science (Geo-Informatics and Space Technology). Naresuan University is also promoting a Doctorate in Geo-Informatics and Space Technology. The goal of this program is to develop professional personnel in the field of Geo-Informatics and Space Technology and to emphasize research only. Graduate students must work on their dissertation for at least 3 years (for 48 credits) to complete their study for the degree of Doctor of Philosophy (Geo-Informatics and Space Technology).

INTRODUCTION

At the present, Space Technology and Geo-Informatics are the important tools for planning such as city planning, disaster urban planning, monitoring and forecasting, disease epidemic and natural resources and environmental management. And Naresuan university (NU) had located on in the lower Northern of Thailand, which responsibility to serve the education in 9 provinces consisted of Kamphangphet, Nakornsawan, Phitsanulok, Phitchit, Phetchabun, Sukothai, Tak, Uttradit and Uthaitani provinces.

Naresuan University is a comprehensive university offering more than 58 under - graduate and 55 graduate programs. This responsibility is also cover Phayao province which located another campus. For this reason, Naresuan University has a vision to opening the master and doctor degrees program for education the graduate student to have knowledge and wisdom on Space Technology and Geo-Informatics. All of graduated students will serve the need of Thai government and distribution this knowledge to the local. The master program of Space Technology and Geo-Informatics

will be conducted at Naresuan University on education year 2005. Graduated students will get the degree of Master of Science (Space Technology and Geo-Informatics). The responsible offices in the Naresuan university main campus are Graduate School, Faculty of Engineering, Faculty of Science, Faculty of Agriculture, Natural Resources and Environment, Environmental Research Centre and Regional Center of Geo-informatics and Space Technology, Lower Northern Region. Another responsible office is located in the Phayao Campus of Naresuan university, Phayao province, Department of Agriculture, Natural Resources and Environment and Department of Science.

MISSION

Provide an excellent education in space technology and geo-informatics that serves to the need of the local society and nation. The graduated students will have an international professional on space technology and geo-informatics background and will be able to respond to the needs of the international competition of the globalization world. Developing the high level human resources and networks for planning and management of natural resources and environment.

OBJECTIVES

To quality graduated students who had a strong knowledge and professional expert in the field of Space Technology and Geo-informatics.

To provide graduated students who can analysis, synthesis and produce the Space Technology and Geo-informatics program.

To provide graduated students with ability to do the research concerning with Space Technology and Geo-informatics.

To provide graduated students who have the knowledge along with the morality.

EDUCATIONAL SYSTEM

Master degree program

Master degree program has arranged into 2 systems and will has the degree awarded in M.S. (Space Technology and Geo-informatics)

System 1 : Plan A , Form A (2)

Students who study in Plan A (2) must take courses at least 2 years and study on the weekdays. Academic year is divided into 2 semesters. Total credits of Plan A, Form A (2) is not less than 38 credits. For Plan A, graduate students must take courses work for 26 credits and prepare a thesis for 12 credits.

System 2 : Plan B

Students who study in Plan B must take courses at least 2 years and study on the weekend only. Academic year is divided into 3 semesters. Total credits of Plan B is not less than 38 credits. For Plan B, graduate students must take course work of 32 credits and conduct an Independent Study project for 6 credits.

Doctor of Philosophy program

Doctor of Philosophy program has arranged into 4 systems and will has the degree awarded in Ph.D. (Space Technology and Geo-informatics)

System 1 : Plan 1(1) for bachelor degree graduate.

Students who study in Plan 1 (1) must do the dissertation or research only. They must take courses at least 4 years. Academic year is divided into 2 semesters. Total credits of Plan 1 (1) is not less than 76 credits.

System 2 : Plan 1(2) for master degree graduate.

Students who study in Plan 1 (2) must do the dissertation or research only. They must take courses at least 3 years. Academic year is divided into 2 semesters. Total credits of Plan 1 (1) is not less than 52 credits.

System 3 : Plan 2(1) for bachelor degree graduate.

Students who study in Plan 2(1) must do the theoretical coursework and dissertation. They must take courses at least 4 years and study on the weekdays. Academic year is divided into 2 semesters. Total credits of Plan 1 (1) is not less than 76 credits.

System 4 : Plan 2(1) for master degree graduate.

Students who study in Plan 2(1) must do the theoretical coursework and dissertation. They must take courses at least 3 years and study on the weekdays. Academic year is divided into 2 semesters. Total credits of Plan 1 (1) is not less than 52 credits.

COURSE OUTLINES

Master degree program

The general required courses are totally 14 credits. The total credits for major core courses in Plan A, Form A(2) are not less than 12 credits and in Plan B are not less than 18 credits.

PROGRAM I : Program in Space Technology and Geo-Informatics

Major core courses consisted of particular required courses 9 credits and Elective courses in Plan A, Form A(2) are not less than 3 credits and in Plan B are not less than 9 credits.

General required courses consisted of Advanced Remote Sensing, High Resolution Satellite Imagery, Geo-information Science, Integration of 3S Technologies, Seminar 1 and Seminar 2. The total credits are not less than 14 credits.

The particular required courses are Theory and Algorithm of Remote sensing and GIS, Microwave Remote Sensing and Software Development.

The elective courses are Advance Satellite Image Processing, Digital Cartography, Digital Photogrammetry, Application of GIS, Principles of Database Systems and Web GIS.

PROGRAM II : Program in Sustainable Development

Major core courses consisted of particular required courses 6 credits and Elective courses in Plan A, Form A(2) are not less than 6 credits and in Plan B are not less than 12 credits.

General required courses consisted of Advanced Remote Sensing, High Resolution Satellite Imagery, Geo-information Science, Integration of 3S Technologies, Seminar 1 and Seminar 2. The particular required courses are Integrated Natural Resources and Environment Management and Decision Support System for Sustainable Development. The elective courses are Environment Impact Assessment, Biodiversity Conservation, Advance Satellite Image Processing, Application of Geo-informatics for Eco-system Management, Web GIS, Application of GIS and Principles of Database Systems.

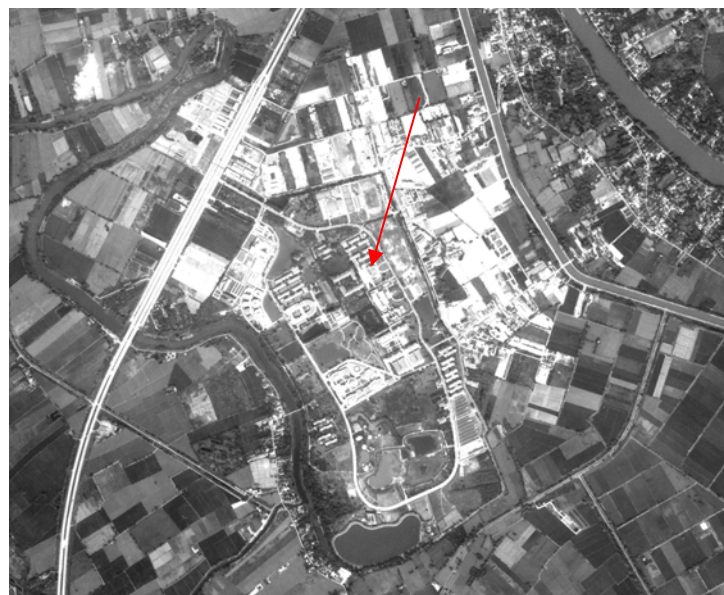


Figure 1. Satellite image showed the theme of Naresuan University area (center), the arrow indicated the Regional Center of Geo-Informatics and Space Technology, lower Northern Region.

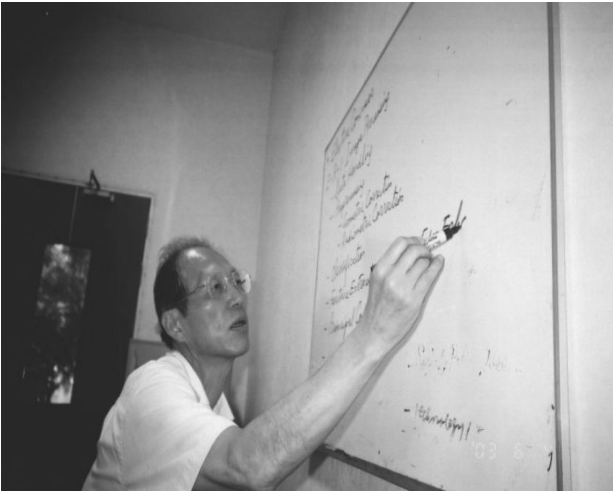


Figure 2. Professor Dr. Shunji Murai was advisor for setting the international curricula of Space Technology and Geo-Informatics programs during the period of June 2nd - 5th, 2003 at Naresuan University.

Organization), Faculty of Agriculture, Natural Resources and Environment, Faculty of Engineering, Naresuan University and GIS & RS University Net Work members for guidance, helpful and encouragement for setting the international curricula of Space Technology and Geo-Informatics on the master and doctoral programs. Finally this program will be not success if without the main financial support from Ministry of Education.

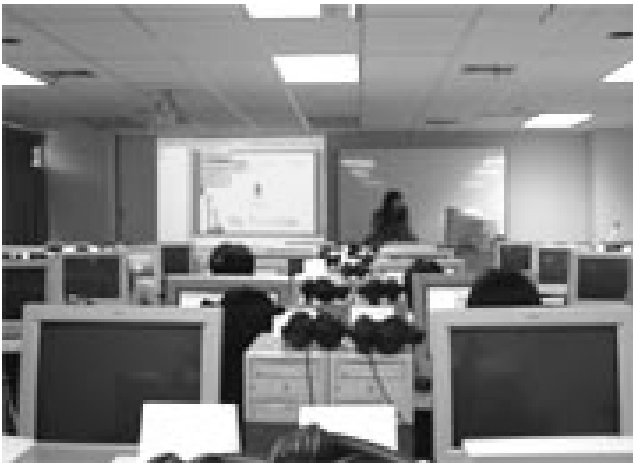


Figure 3. Naresuan University Computer laboratory has been provided for the Space Technology and Geo-Informatics program.

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