

Course Syllabus

Class/Department: Department of Real Estate and Built Environment

Course Title: Satellite Positioning System

Grade(應修系級): 不動產與城鄉環境學系碩/博士班、城市治理英語碩士學位學程碩士班

Type: Required Selective Whole Half

Credits: 2

Course Number: M5781

Prerequisite Course: No

Course Description:

The development of the satellite mission will be presented in this course. The principle and specificity of the Russian GLONASS, the forthcoming European GALILEO, and U.S. GPS satellite systems will be also introduced in the class. Moreover, two case studies on disaster prevention and some applications in many fields will be discussed, to let the students to understand the helping of the satellite technology for the life of human being.

Course Objective:

GPS technology and its applications on disaster prevention

Course Outline: (including teaching schedule):

Introduction of GPS (2 weeks)

Timing system (1 week)

Geodetic reference system (1 week)

GPS observation (2 weeks)

Principle of GPS positioning (2 weeks)

Differential GPS (1 week)

Real-time Kinematic (1 week)

GPS applications (3 weeks)

Case studies on disaster prevention (2 weeks)

學生核心能力權重：八項加總為 100，不需每項均得填寫，惟至少需填一項

Item	Creative thinking and Problem-solving 創意思考與問題解決	Comprehensive integration 綜合統整	Communication and Coordination 溝通協調	Team cooperation 團隊合作
Weight	30%	20%	10%	10%

Item	Integrity and Upright 誠信正直	Respect and Reflection 尊重自省	Diverse care 多元關懷	Cross-border cooperation 跨界合作
Weight	10%	0%	0%	20%

Career Development:

Surveying, geodesy, and disaster prevention

Evaluation Methods:

Participation 10%

Class discussion 10%

Regular assignment 40%

Oral report 40%

Required texts:

No

Reference texts:

Alfred Leick, 2003. GPS Satellite Surveying, John Wiley & Sons Inc., ISBN: 978-0471059301.