

國立台灣科技大學 114學年 第2學期 課程大綱

Spring 2026 NTUST Course Outline

授課教師：李安叡

Instructor:Li,An-Jui

課程名稱：滑坡及其整治

Course Title : Landslides and Remedial Measures

2026/6/22

<p>課程代號： CT5802701 Course Code 學分數： 3 Credits</p>	<p>必選修：選修/半學年 Required/Elective: Elective/Half Yr. 先修課程： Prerequisites</p>
<p>節次教室： W3(IB-305) W4(IB-305) W5(IB-305) Time/Location</p>	
<p>專業核心能力： Core Professional Competencies</p>	
<p>課程網址： Course Website</p>	
<p>課程宗旨： After this subject, students will have capability of selecting basic design parameters, performing numerical analyses (LEM and FEM), design reinforced and unreinforced slopes. Course Objectives</p>	
<p>課程大綱： 一、前言 二、台灣之地質概況 三、滑波之發生機制 四、滑波原因之調查技術 五、邊坡穩定分析 六、主動式滑波整治方法；抗滑樁工法(配合STABL程式使用)；背拉地錨工法(配合地錨設計規範和STABL程式使用) 七、被動式滑波整治方法：地表水排除；地下水排除；坡頂解載或坡腳加載；坡腳沖蝕防止；植生護坡工法 Outline of Lectures 1. Introduction 2. Types and Processes of Landslides 3. Landslide Mechanisms 4. Investigation technologies for Landslides - Aerial photos, satellite images, - Monitoring equipments for landslides - Monitoring of groundwater level and its flow patterns 5. Landslide Hazard Mapping (GIS) - Selection of influencing factors - Establish database - Influence of rainfall on landslides - Failure probability and risk analysis - AI-driven Geospatial Analysis 6. Slope stability analysis Use commercial software PCSTABL for stability analysis(AI-based optimization of slope stability parameters) 7. Active remedial measures for landslides AI-assisted Design Optimization (Predictive modeling for reinforcement effectiveness) - Dowel piles method (止滑樁) - Tie-back anchors method (背拉地錨) 8. Passive remedial measures for landslides - Surface water drainage - Groundwater drainage - Slope grading (修坡) - Toe erosion control (e.g., Submerged Dam, Sediments Storage Dam) - Vegetation cover (e.g., soil bioengineering biotechnical stabilization)</p>	
<p>授課方式： 講授 Lecture：0% Method of Instruction 分組討論 Group discussion：0%</p>	

案例研討 Case study : 0%

操做練習 Practical exercises : 0%

講授 Lecture : %

教科書 :

Textbooks

參考書目 : Duncan and Wright "Soil Strength and Slope Stability" 2nd Edition, John
References Wiley and Sons Ltd. 2014

修課須知 :

Notice

評量方式 : Class performance 10% Report - case study 25% Presentation - case
Grading study 25% (10+15) Examination (40%)

備註說明 :

Notes