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：蔡明憲

Instructor:Ming-Hsien Tsai

課程名稱：軟體安全

Course Title：Software Security

2026/11/3

課程代號： MI5012701 Course Code 學分數： 3 Credits	必選修：選修/半學年 Required/Electve:Elective/Half Yr. 先修課程： Prerequisites
節次教室： Time/Location	R2(IB-607) R3(IB-607) R4(IB-607)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	如果我們沒有很爛的網體安全的話，就不需要花費太多力氣在網路安全上。本課我們將探討數個軟體相關的安全議題，包含系統軟體與網頁應用程式等。我們也將學習如何在軟體設計中建構安全，如何撰寫安全程式碼，以及如何驗證程式安全。 We wouldn’t have to spend so much effort on network security if we didn’t have bad software security. In this course, we will investigate several software-related issues ranging from system software to web applications. We will also learn how to build security into software design, how to write code securely, and how to verify software security.
課程大綱： Outline of Lectures	1. Introduction 2. Managing Software Security Risk 3. Selecting Technologies 4. On Open Source and Closed Source 5. Guiding Principles for Software Security 6. Auditing Software 7. Buffer Overflows 8. Access Control 9. Race Conditions 10. Randomness and Determinism 11. Applying Cryptography 12. Trust Management and Input Validation 13. Password Authentication 14. Database Security 15. Client-side Security 16. Web application security
授課方式： Method of Instruction	講授 Lecture：0% 分組討論 Group discussion：0% 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： References
修課須知： Notice
評量方式： Grading
備註說明： Notes