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：洪政煌

Instructor:Cheng-Huang Hun

課程名稱：網路流量模式與應用

Course Title：Network Flow Models and Applications

2026/11/3

課程代號： MI5413701 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	T6(TR-412-2) T7(TR-412-2) T8(TR-412-2)
專業核心能力： Core Professional Competencies	
課程網址： Course Website	
課程宗旨： Course Objectives	Help students understand network flows models and their applications.
課程大綱： Outline of Lectures	This course will try to cover the following topics as many as possible. We will introduce the problems, solving algorithms, complexity analysis, and the corresponding applications. 1. The introductions and basic definitions of Network Flow Models 2. The shortest path problem 3. The maximum flow problem 4. The minimum cost flow problem 5. The assignment problem 6. Matching problem 7. The minimum spanning trees problem 8. Multi-commodity flows problem 9. The traveling salesman problems 10. Network design problem
授課方式： Method of Instruction	講授 Lecture：85% 分組討論 Group discussion：15% 案例研討 Case study：0% 操做練習 Practical exercises：0% 講授 Lecture：%
教科書： Textbooks	Network Folws-Theory, Algorithms, and Applications, R. K. Ahuja, T. L. Magnanti, J. B. Orlin, Prentice Hall, 1993.
參考書目： References	Network Folws-Theory, Algorithms, and Applications, R. K. Ahuja, T. L. Magnanti, J. B. Orlin, Prentice Hall, 1993.
修課須知： Notice	
評量方式： Grading	

	1. Class participation		10%
	2. Homework		20%
	3. Midterm exam or presentation	35%	
	4. Final exam (or Final paper report)	35%	
備註說明： Notes	具備基本作業研究及演算法及程式設計基礎為佳 Understanding the basic operations research, algorithms, and programming skill will be helpful.		