# 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：戴　孺

Instructor:Yian Tai

課程名稱：真空薄膜工程

Course Title：Vacuum and Thin Film Technology

2026/11/3

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| 課程代號：CH5402701<br>Course Code<br>學分數：3<br>Credits | 必選修：選修/半學年<br>Required/Electve:Elective/Half Yr.<br>先修課程：<br>Prerequisites |
| 節次教室：M6(IB-512) M7(IB-512) M8(IB-512)<br>Time/Location | |
| 專業核心能力：<br>Core Professional Competencies | |
| 課程網址：<br>Course Website | |
| 課程宗旨：<br>Course Objectives | Thin film is one of the most important fields in the scientific and engineering domains; from corrosion prevention to the most advanced semiconductor devices. Therefore, this course aims to introduce the basic principles, material, processes, and applications of thin films, enabling students to gain a considerable understanding of the field. |
| 課程大綱：<br>Outline of Lectures | WK 1, 2　Introduction of Thin Films<br>WK 3, 4, 6　Vacuum Technology<br>WK 8, 9　Fabrication of Thin Films (I)<br>WK 10　Midterm Exam<br>WK 11, 12　Fabrication of Thin Films (II)<br>WK 13, 14　Characterization of Thin Films<br>WK 15　Application of Thin Film Technologies<br>WK 16　Final Exam |
| 授課方式：<br>Method of Instruction | 講授 Lecture：85%<br>分組討論 Group discussion：0%<br>案例研討 Case study：15%<br>操做練習 Practical exercises：0%<br>講授 Lecture：% |
| 教科書：<br>Textbooks | |
| 參考書目：<br>References | 1. Methods of surface analysis / A. W. Czanderna<br>2. Introduction to Surface Physical Chemistry / K. Christmann<br>3. Introduction to surface and thin film processes / J. A. Venables<br>4. Electron spectroscopy for surface analysis / H. Ibach<br>5. Thin film process / J. L. Vossen<br>6. Handbook of Thin Film Deposition 2nd Edition / K. Seshan<br>7. Handbook of Sputtering Technology / K. Wasa |
| 修課須知：<br>Notice | |
| 評量方式：<br>Grading | Quiz (in class) + attendance 20%<br>Mid-term 40%<br>Final-term 40% |

備註說明：
Notes