# 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：許維君

Instructor:Wei-Chun Hsu

課程名稱：樂齡健康評量照護與大學社會實踐

Course Title：Advanced Topics in Healthy Aging Assessment, Care, and USR Practice

2026/11/4

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| 課程代號： BE5079701<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：<br>Time/Location | F5(TR-513) R5(TR-513) T5(TR-513) |
| 專業核心能力：<br>Core Professional Competencies | ■：具備創新思考及獨立解決問題之能力<br>■：具備跨領域整合團隊合作之能力<br>■：具備良好國際觀與社會責任<br>■：具備領導、管理及規劃之能力<br>■：具備自我學習成長及應用醫學工程專業技能之能力 |
| 課程網址：<br>Course Website | |
| 課程宗旨：<br>Course Objectives | This course focuses on health assessment and care for older adults, integrating advanced sports science, biomedical applications, and the principles of University Social Responsibility (USR). The course aims to develop students' interdisciplinary integration, field-based assessment skills, and problem-solving abilities. Core topics include health and functional assessment in aging populations, exercise physiology, neuromuscular control, biomechanical analysis, functional movement evaluation, and care-oriented intervention strategies. Through USR-oriented community and care-setting practice, students apply professional knowledge to real-world needs in healthy aging, frailty prevention, and quality-of-life enhancement.<br>本課程以樂齡族群之健康評量與照護為核心，結合進階運動科學、醫工應用與大學社會責任（University Social Responsibility, USR）之實踐導向，培養學生跨域整合、臨床／場域評估與問題解決能力。課程內容涵蓋高齡者健康與功能評量、運動生理與神經肌肉控制、生物力學分析、功能性動作與照護介入策略，並透過USR導向之社區與照護場域實作，引導學生將專業知識實際應用於高齡健康促進、預防衰弱與提升生活品質之實務需求。同時，本課程強調提早銜接專業職場，培養學生之專業倫理、溝通協作能力與永續責任意識，為未來投入健康照護、運動科技、醫工產業或相關研究領域奠定基礎。 |
| 課程大綱：<br>Outline of Lectures | |

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| | This course provides an integrated overview of advanced theories and practical applications in health assessment and care for older adults, aligned with the practice of University Social Responsibility (USR). Topics include health and functional assessment methods for aging populations, advanced exercise physiology and neuromuscular control, biomechanical measurement theories and techniques, functional movement analysis, and applications of wearable biomedical sensors and motion analysis devices. Students will engage in community and care-setting fieldwork involving needs assessment, USR project design, on-site implementation, data review, and outcome reflection. The course emphasizes translating scientific assessment findings into practical care and health promotion strategies, while fostering professional ethics, interdisciplinary collaboration, and sustainability awareness.<br>本課程系統性介紹樂齡健康評量與照護相關之進階理論與實務應用，並結合大學社會責任實踐。課程內容涵蓋高齡者健康與功能性評量方法、進階運動生理與神經肌肉控制、生物力學量測理論與技術、功能性動作分析、穿戴式生醫感測裝置與運動力學設備應用，以及社區與照護場域之需求評估與健康促進策略規劃。學生將透過場域前測、USR專案設計、實地執行、資料回顧與成果反思，學習將科學評量結果轉化為實際照護與健康促進行動，並培養專業倫理、跨域合作與永續發展意識。 |
| 授課方式：<br>Method of Instruction | 講授 Lecture：0%<br>分組討論 Group discussion：0%<br>案例研討 Case study：0%<br>操做練習 Practical exercises：0%<br>講授 Lecture：% |
| 教科書：<br>Textbooks | None |
| 參考書目：<br>References | This course uses self-developed materials covering exercise physiology, neuromuscular control, biomechanics, arthrokinematics, and fitness assessment. Students apply this knowledge to community health promotion, older adult fitness, and exercise program design.<br>The EMI approach emphasizes English as a communication tool, using structured content, visual aids, and task-based activities to reduce language load while maintaining academic depth. |
| 修課須知：<br>Notice | This course is grounded in advanced sports science theories and integrates real-world community engagement through University Social Responsibility (USR) initiatives. The course adopts a Problem-Based Learning (PBL) approach alongside active learning strategies, emphasizing experiential learning in authentic community settings. |
| 評量方式：<br>Grading | Assessment will be based on class participation, group projects, oral presentations, and written assignments. Students are expected to actively engage in PBL discussions and apply sports science knowledge in USR fieldwork. Evaluation will focus on collaboration, problem-solving, communication in English, and the integration of theory and practice. |
| 備註說明：<br>Notes | Students are expected to demonstrate an open mindset and a proactive attitude toward learning. As the course adopts interactive approaches such as Think－Pair－Share, problem-based learning (PBL), and practical fieldwork, active engagement, collaboration, and problem-solving are essential expectations. |