

非線性系統理論

Nonlinear System Theory

Institute of Electrical and Control Engineering
2023 Spring

Course Code: 535313

Instructor: 蕭得聖 副教授 (Office: EE736, EXT: 31249)

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Office Hours: T67 (Tuesday, 2:20pm - 4:20pm)

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TA Office Hours: W78 (Wednesday, 3:30am – 5:20pm)

Class Time: T234 (Tuesday, 9:00am - 12:00pm)

Place: EE209

Prerequisites: Linear Algebra, Linear System Theory

Course Objectives: *Understanding the characteristics of nonlinear systems, and being familiar with tools for nonlinear system analysis and feedback controller design*

Text Book: Hassan K. Khalil, "Nonlinear Systems," Pearson, 3rd Edition, 2010

Reference: Jean-Jacques E. Slotine and Weiping Li, "Applied Nonlinear Control," Prentice Hall, 1991

Course Website: <https://e3.nycu.edu.tw>

Grading: Homework: 30%

Mid-term: 30%

Final: 40%

Course Outlines:

1. Characteristics of Nonlinear Systems
2. Phase Portrait of Nonlinear Systems
3. Stability of Equilibrium Points
4. Input-Output Stability
5. Passivity
6. Feedback Linearization
7. Nonlinear Control Methods