

Signal and Systems, Fall 2019.

Course keywords: signal and system, continuous time, discrete time

一、課程說明 (Course Description): This course aims to provide sufficient mathematic training for students whose majors are in electrical engineering or mechanical engineering. The content emphasizes in the relationship between signals and linear time-invariant systems. Both continuous-time and discrete-time signal and system will be introduced and discussed. This course is the mathematic foundation of digital signal processing, circuit design, and so on. Basic mathematic skills, especially differential equations, are required.

二、指定用書 (Text Books) (1) 上課用書 Signals and Systems (2nd Edition) by Alan V. Oppenheim (2) 參考書目 訊號與系統 王小川教授 編著 MATLAB 程式設計：入門篇 張智星教授 編著

三、教學方式 (Teaching Method) Lectures

四、教學進度 (Syllabus) 1. Introduction of signal 2. Introduction of system 3. CT Convolution Integral (signal and system) 4. DT Convolution Sum (signal and system) 5. CT Fourier series (signal) 6. DT Fourier series (signal) 7. CT Fourier transform (signal) 8. DT Fourier transform (signal) 9. CT Fourier transform (system) 10. DT Fourier transform (system) 11. CT Laplace transform (system) 12. DT Z- transform (system) 13. Review and discussion of CT signal and system 14. Review and discussion of DT signal and system

五、成績考核 (Evaluation) 暫定 Midterm I: 25% Midterm II: 30% Final: 30% Homework: 15%