

Course Content

Course Title (English)	Time-frequency Analysis and Wavelet Transform
Course Title (Chinese)	時頻分析和小波轉換
Credit	3
Instructor	Prof. Jian-Jun Ding 丁建均 教授
Outline	Time frequency analysis can be viewed as a generalization of the Fourier transform. In this course, we introduce several time-frequency analysis methods, including the short-time Fourier transform, the Gabor transform, the Wigner distribution function, the Cohen's distribution, the Hilbert-Huang transform, and the wavelet transform. We also introduce their applications in filter design, acoustics, image processing, communication, and compressive sensing.
Goal	We will introduce the theories and applications of time-frequency analysis and reinforce the knowledge of time-frequency analysis.
English Teaching	<input type="checkbox"/> YES <input checked="" type="checkbox"/> NO
Teaching Material	<input checked="" type="checkbox"/> English <input type="checkbox"/> Chinese