108 The Class Curriculum planning of Ph. D. Program in Engineering and Science

Required Courses	Research Fields	Professional Courses	
Construction Seminars (four semesters) Thesis Seminar (start at 3rd year)	Internet of Things	• WirelessNetwork • Cloud Computing and Program Design • Database System	• Sensing Technology for IoT • Internet of Things-Therory and Implementation
	Mechatronic	• Linear System • Advanced Mechanics of Materials • Advanced Engineering Materials • Advanced Thermal-Fluids Engineering • Smart Manufacturing	• Fuzzy Control • Green Energy Engineering • Finite Element Method • Vibration • Numerical Analysis
	Artificial Intelligence	• Imaging System • Wavelet Transform and Its Applications • Computer Vision • Evolutionary Computation • Digital Signal Processing • Fuzzy theory	• Multimedia System • Digital Filter • Machine Learning • Computer Algorithms • Pattern Recognition • Special Topics of Artificial Intelligence • Deep Learning

| | | ● Neural Networks |
| | | ● Big Data Analysis and Applications |

Note：1. Required courses are not included in course credits for graduation.

2. Every student must complete at least 21 course credits for graduation.(Exclude Technical Writing in English.)