

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

Required Courses	Research Fields	Professional Courses	
		1 st semester	2 nd semester
Construction Seminars (four semesters) Thesis Seminar (start at 3rd year)	Internet of Things	<ul style="list-style-type: none"> ● Microwave Radio Frequency Circuit Design ● WirelessNetwork ● Cloud Computing and Program Design ● Database System 	<ul style="list-style-type: none"> ● Mobile Communication Systems ● Wireless AD Hoc and Sensor Networks ● Techniques of Integrated Manufacturing and Networks
	Intelligent Energy and Control System	<ul style="list-style-type: none"> ● Linear System ● Green Building Material ● Control of Electric Energy Conversion 	<ul style="list-style-type: none"> ● Fuzzy Control ● Artificial Neural Networks ● Green Energy Material ● Energy Engineering
	Artificial Intelligence	<ul style="list-style-type: none"> ● Imaging System ● Wavelet Transform and Its Applications ● Computer Vision ● Evolutionary Computation ● Digital Signal Processing 	<ul style="list-style-type: none"> ● Multimedia System ● Digital Filter ● Machine Learning ● Computer Algorithms ● Pattern Recognition ● Special Topics of Artificial Intelligence ● Deep Learning

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.)