

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

Required Courses	Research Fields	Professional Courses	
<p>Construction Seminars (four semesters)</p> <p>Thesis Seminar (start at 3rd year)</p>	Internet of Things	<ul style="list-style-type: none"> ● WirelessNetwork ● Cloud Computing and Program Design ● Database System 	<ul style="list-style-type: none"> ● Sensing Technology for IoT ● Internet of Things-Theory and Implementation
	Mechatronics	<ul style="list-style-type: none"> ● Linear System ● Advanced Mechanics of Materials ● Advanced Engineering Materials ● Advanced Thermal-Fluids Engineering ● Smart Manufacturing 	<ul style="list-style-type: none"> ● Green Energy Engineering ● Finite Element Method ● Vibration ● Numerical Analysis
	Artificial Intelligence	<ul style="list-style-type: none"> ● Imaging System ● Wavelet Transform and Its Applications ● Computer Vision ● Evolutionary Computation ● Digital Signal Processing ● Fuzzy theory ● Neural Networks ● Big Data Analysis and Applications 	<ul style="list-style-type: none"> ● Multimedia System ● Digital Filter ● Machine Learning ● Computer Algorithms ● Pattern Recognition ● Special Topics of Artificial Intelligence ● Deep Learning ● Advanced Probability and Statistics

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.)