

99-2 大葉大學 完整版課綱

基本資訊			
課程名稱	人工智慧	科目序號 / 代號	1709 / EGR5015
開課系所	電機工程學系碩士班	學制 / 班級	研究所碩士班1年1班
任課教師	吳幸珍	專兼任別	專任
必選修 / 學分數	選修 / 3	畢業班 / 非畢業班	非畢業班
上課時段 / 地點	(三)234 / H371	授課語言別	其他

課程簡介
<p>This course is to provide graduate student with practical understanding of the field of artificial intelligent systems. Student will develop small rule-based expert system, design a fuzzy system, explore artificial neural network and implement a simple problem as a genetic algorithm. Matlab Fuzzy Logic and Neural Network Toolbox are used in this coursed.</p>

課程大綱
<p>I. Introduction to knowledge-based intelligent systems</p> <ol style="list-style-type: none"> 1. Introduction to AI/neuroscience (TJ_1/K_1,2) ; ITS(viedo) 2. Introduction to fuzzy systems (K_14) 3. Introduction to neural network and soft computing paradigm (K_15) 4. Introduction to Intelligent Agents (TJ_11) <p>II. Optimization</p> <ol style="list-style-type: none"> 5. Derivative-based optimization (J_6) 6. Evolution-based computation (TJ_7,N_7) <p>III. Recurrent Neurodynamical Systems</p> <ol style="list-style-type: none"> 7. Artificial neural network (TJ_8-9,N_6.1) 8. (Supervised Learning) Support Vector Machine (K_8) 9. (Recurrent Learning) Adaptive Resonance Theory (K_11) 10. Unsupervised Learning (N_6.2,K_12) <p>III. Hybrid Intelligent Systems</p> <ol style="list-style-type: none"> 11. Integrated Neural Fuzzy Systems (TJ_12,N_8.1,anfis, sonfin) 12. Evolution-based Neural/Fuzzy Systems (N_8.2) <p>Final Examination</p>

基本能力或先修課程
no

課程與系所基本素養及核心能力之關連

- 2.2具有設計實驗、分析創新、獨立研究與實作能力。
- 3.1具有有效溝通，具備跨領域團隊合作及整合之能力。
- 3.2具有充分認知工程倫理重要性，認識時事議題、善盡社會責任。

成績稽核

教科書(尊重智慧財產權，請用正版教科書，勿非法影印他人著作)

書名	作者	譯者	出版社	出版年
無參考教科書				

參考教材及專業期刊導讀(尊重智慧財產權，請用正版教科書，勿非法影印他人著作)

書名	作者	譯者	出版社	出版年
無參考教材及專業期刊導讀				

上課進度

週次	教學內容	分配時數(%)				
		講授	示範	習作	實驗	其他
1	Introduction to AI/neuroscience (TJ_1/K_1,2) ; ITS(viedo)	70	10	20		
2	Introduction to fuzzy systems (K_14)	70	10	20		
3	Introduction to neural network and soft computing paradigm (K_15)	70	10	20		
4	Introduction to Intelligent Agents (TJ_11)	70	10	20		
5	Derivative-based optimization (J_6)	70	10	20		
6	Evolution-based computation (TJ_7,N_7)	70	10	20		
7	Artificial neural network (TJ_8-9,N_6.1)	70	10	20		
8	Artificial neural network (TJ_8-9,N_6.1)	70	10	20		
9	(Supervised Learning) Support Vector Machine (K_8)	70	10	20		
10	(Supervised Learning) Support Vector Machine (K_8)	70	10	20		
11	(Recurrent Learning) Adaptive Resonance Theory (K_11)	70	10	20		
12	(Recurrent Learning) Adaptive Resonance Theory (K_11)	70	10	20		
13	Unsupervised Learning (N_6.2,K_12)	70	10	20		
14	Unsupervised Learning (N_6.2,K_12)	70	10	20		
15	Integrated Neural Fuzzy Systems (TJ_12,N_8.1,anfis, sonfin)	70	10	20		
16	Integrated Neural Fuzzy Systems (TJ_12,N_8.1,anfis, sonfin)	70	10	20		
17	Evolution-based Neural/ Fuzzy Systems (N_8.2)	70	10	20		
18	Final Examination	70	10	20		