

National Center University
Department of Computer Science and Information Engineering
Course Lectured in English
1st Semester of Academic Year 2013/2014

Course	Advanced Algorithms for Distributed Computing
Instructor	Sun, Min–Te(Peter)
Credit	3
Whole Year or Semester	Semester
Teaching goal	(none)
Teaching content	A model of distributed computations Logical time Global state and snapshot recording algorithms Basic algorithms (Synchronizers, MIS, CDS, Leader Election, etc.) Message ordering and group communication Termination detection Reasoning with knowledge Distributed mutual exclusion algorithms Deadlock detection in distributed systems Global predicate detection Distributed shared memory Checkpointing and rollback recovery Consensus and agreement algorithms Failure detectors

Course	Information Retrieval and Extraction
Instructor	Chang, Chia–Hui
Credit	3
Whole Year or Semester	Semester
Teaching goal	(none)
Teaching content	(none)

Course	Intelligent Surveillance
Instructor	Cheng, Hsu-Yung
Credit	3
Whole Year or Semester	Semester
Teaching goal	Introduce and discuss related techniques on intelligent surveillance systems Train the students with system implementation, paper survey, and English presentation abilities
Teaching content	<ol style="list-style-type: none"> 1. Introduction to Intelligent Surveillance Systems 2. Image Processing Techniques Review 3. Moving Object Segmentation and Background Modeling 4. Shadow Detection and Removal 5. Multi-object Tracking 6. Features 7. Classifiers 8. Salient Region/Object Detection and Recognition 9. Abandoned Object and Stolen Object Event Detection 10. Pedestrian/human Detection and Analysis of Group of People 11. Human-Body Modeling 12. Face Detection and Face Recognition 13. Gait Analysis 14. Behavior Analysis

Course	Wireless Multimedia System
Instructor	Wu, Eric Hsiao-Kuang
Credit	3
Whole Year or Semester	Semester
Teaching goal	Developing the knowledge of Wireless and Mobile Network Architecture and future mobile multimedia services
Teaching content	<p>Introduction the Wireless Network Propagation Channel Model Channel Coding The Cellular Concept</p>

Multiple Radio Access
Multiple Division Techniques
Channel Allocation

Course **Natural Language Processing**

Instructor Tsai, Tzong-Han

Credit 3

**Whole Year or
Semester** Semester

Teaching goal Learn how to implement the necessary techniques for automatically processing and understanding large amounts of natural language texts (e.g. web pages, news, microblog messages, online reviews, and emails) and employ them to build intelligent applications

**Teaching
content** 1. Course introduction
2. Foundations of processing text
3. Searching
4. Fuzzy string matching
5. Identifying people, places, and things
6. Clustering text
7. Classification, categorization, and tagging
8. Building an example question answering system
9. Sentiment analysis

Course **Machine Learning**

Instructor Li, Yung-Hui

Credit 3

**Whole Year or
Semester** Semester

Teaching goal (none)

Teaching content Face Recognition, Iris Recognition
PCA, LDA, Correlation Filters, SVM
Supervised Learning
Bayesian Decision Theory

Parametric Method
Multivariate Method
Clustering

Course **Software Engineering**

Instructor Cheng, Yung-Pin

Credit 3

Whole Year or Semester
Semester

Teaching goal (none)

Teaching content (none)