Course Syllabus, Fu Jen Catholic University

2015-2016

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| Department | Department of Computer Science and Information Engineering |
| Course Level and Code | Graduate G515119134 |
| Course Name | Advanced Wireless Networks System | Credits | Fall | Spring |
| 3 |  |
| Instructor | Name and Title | Jenn-Wei Lin, Professor |
| E-mail | jwlin@csie.fju.edu.tw |
| Phone | +886-2-29053855 |
| Office Hours | Monday 15:40 – 17:00, Wednesday 15:40 – 17:00 |
| Room | SF606(1) |
| Course Objectives | This course is to provide the students with discussions on the various problems that can happen in computer networks, and give a sophisticated comparison of their solutions. For each of the protocol layer, we will first describe the possible issues and their causes, then analyze the performance of a number of proposed solution approaches and list their advantages and disadvantages. The objective is to make the students understand the characteristics of different methods such that they can identify the most suitable solution for any given situation. |
| Prerequisites | None |
| Textbooks | Kaveh Pahlavan and Prashant Krishnamurthy ,Principles of Wireless Networks  |
| References | 1. An Efficient Grid-Based Approach for Dynamical Target Coverage in Hybrid Sensor networks
2. Fault Tolerant Design and Analysis for Access Points in Public WLAN
3. GlobalCom 2002
4. MIPv6 \_ Conference
5. Journal - Fault Tolerance for Wireless LAN
6. Local replacement for route recovery on a collaborative mobile ad hoc network
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| Evaluation | □ Homework/Assignments | % | □ Term Paper | % |
| □ Quiz | % | ■ Oral Presentation | 30% |
| ■ Midterm | 30% | □ Class Participation | % |
| ■ Final Exam | 40% | 口Others  | % |
| □ Term Project | % |  |  |
| Course Web Site | http://140.136.149.173/TeachingActivities.htm |
| Course Outline |

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| Week | Topic |
| 1 | Overview of Wireless Networks |
| 2 | Characteristics of the Wireless Medium |
| 3 | Physical Layer Alternatives for Wireless Networks |
| 4 | Wireless Medium Access Alternatives |
| 5 | Network Planning |
| 6 | Wireless Network Operation |
| 7 | GSM and TDMA Technology |
| 8 | CDMA Technology, IS-95, and IMT-2000 |
| 9 | Mobile Data Networks |
| 10 | Introduction to Wireless LANs |
| 11 | IEEE 802.11 WLANs |
| 12 | Wireless ATM and HIPERLAN |
| 13 | Ad Hoc Networking and WPAN |
| 14 | Wireless Geolocation Systems |

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| Notes | None |