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| **ELEMENT** | **CONTENT** |
| DEPARTMENT | CIS |
| AUTHOR (S) | Jean F. Hakim |
| COURSE NUMBER | **CIS 3250** |
| COURSE TITLE | **Advanced Network Architectures** |
| SHORT TITLE | Adv Net Architecture |
| COURSE LEVEL | 3000 |
| DATE CREATED | 1/3/2013 |
| CHECKED/CHANGED | 3/1/2017 |
| PREREQUISITES | CIS 2151 |
| COREQUISITES |  |
| RESTRICTIONS |  |
| SPECIAL FEES | No |
| CREDITS | 4 |
| HOURS | 3 hours of lecture, 2 hours of lab per week |
| SEMESTER | Spring |
| COURSE DESCRIPTION | This course teaches the student how to implement, monitor, deploy, and maintain a network in a converged enterprise environment. The student learns how to plan, configure, and verify the implementation of complex enterprise switching solutions. The course also covers the secure integration of VLANs, WLANs, security, and video into networks. Key concepts covered include network implementations such as HSRP, STP, EtherChannel, wireless technologies, advanced OSPF, EIGRP, and frame relay. |
| SUGGESTED TEXTS | *Scaling Networks Companion Guide* |
| OPTIONAL TEXTS |  |
| COURSE OUTCOMES | The successful student will be able to:   1. Design, deploy, and manage a high-availability network 2. Manage wireless networks including security and privacy constraints 3. Understand critical high-availability network technologies 4. Understand port aggregation, WAN technologies, STP, and advanced routing technologies |
| COURSE CONTENT | 1. Network design 2. LAN redundancy 3. EtherChannel 4. Network high availability 5. Wireless LANs 6. Advanced OSPF 7. EIGRP 8. IOS licensing 9. Hierarchical network design 10. Frame relay 11. Point-to-point connections 12. Broadband solutions 13. Securing site-to-site connectivity |
| LAB/STUDIO OUTCOMES | The successful student will be able to:   1. Demonstrate experience with Cisco equipment 2. Set up configurations 3. Demonstrate collaboration and coordination in setting up network architectrues |
| LAB/STUDIO CONTENT | 1. Network design 2. Configuring STP features 3. HSRP 4. Wireless networks 5. OSPF advanced features 6. Multi-area OSPF 7. EIGRP 8. Advanced EIGRP 9. IOS licensing 10. WAN technologies 11. Frame relay 12. Point-to-point GRE VPN tunnel |
| LECTURE CAPACITY | 32 |
| LAB CAPACITY | 16 |
| GRADED OR P/NP | Graded |
| EVALUATION | Attendance, lab work, exams, written assignments, packet tracer assignments |
| DELIVERY METHOD | HYB, LAB |
| ROOM REQUIREMENTS | CIS lab for lab |
| AUTHOR’S NOTES |  |