

EE 877B: Smart Grid Elements - I
Spring 2012
Weekly Schedule

| Wk | Date | Topic | Software | Assignments | |
|----|---------|--|----------------|-------------|--------|
| | | | | Post | Due |
| 1 | Jan. 16 | Martin Luther King Day | | | |
| | Jan. 17 | Introduction | | Groups | |
| 2 | Jan. 23 | Introduction to Power Systems | | | |
| | Jan. 25 | Introduction to Power Systems | PSCAD, WinMill | AP # 1 | Groups |
| 3 | Jan. 30 | Introduction to Distributed Control | | | |
| | Feb. 01 | Introduction to Networking | | | |
| 4 | Feb. 06 | Introduction to Networking | NS2 | AN # 1 | AP # 1 |
| | Feb. 08 | Student Proposal Presentations | | | |
| 5 | Feb. 13 | Distribution Level Outage and Management | | | AN # 1 |
| | Feb. 15 | Power Systems Transients and Stability | | | |
| 6 | Feb. 20 | Smart Sensors / Synchrophasors / Telemetry | MatLab | AM # 1 | |
| | Feb. 22 | Communication Requirements for Smart Grids | | | |
| 7 | Feb. 27 | Existing Smart Grid Communication Standards | | | AM # 1 |
| | Feb. 29 | Hybrid Communication Systems for Smart Grids | | | |
| 8 | Mar. 05 | Network Protocol Developments & Performance Evaluations | | | |
| | Mar. 07 | Distributed Energy Sources and Micro grids | | | |
| 9 | Mar. 12 | Decentralized / Distributed Control | | | |
| | Mar. 14 | Mid Term 1 | | | |
| 10 | Mar. 19 | Spring Break | | | |
| | Mar. 21 | Spring Break | | | |
| 11 | Mar. 26 | Demand Side Planning | | | |
| | Mar. 28 | Demand Response | | | |
| 12 | Apr. 02 | Advance Metering Infrastructure | | | |
| | Apr. 04 | Cyber Security | | | |
| 13 | Apr. 09 | System Performance and Distribution Reliability | | | |
| | Apr. 11 | Guest Speaker: SEL Presentation | | | |
| 14 | Apr. 16 | Multi Objective Optimization | | | |
| | Apr. 18 | Environmental Impacts of Smart Grids | | | |
| 15 | Apr. 23 | Economics of Alternative Fuels | | | |
| | Apr. 25 | Signal Processing and Estimation Theory in Power Systems | | | |
| 16 | Apr. 30 | Real time Control | | | |
| | May 02 | Poster Presentation | | | |
| 17 | May 09 | Finals | | | |

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| | Dr. Aravinthan | 11 Classes |
| | Dr. Namboodiri | 08 Classes |
| | Dr. Jewell | 04 Classes |
| | Dr. Sawan | 04 Classes |

This is a tentative syllabus and subject to change