EE 3302 Research Project

You and a team of one or two classmates are to select and research one of the following topics. Report your findings in a technical presentation that contains sufficient detail to describe the characteristics, capabilities, and performance of the system under study. System presentations must provide a rigorous technical description. Assessments, conclusions, predictions, forecasts and other prognostication must be well supported with data. All team members must participate in the presentation. Presentations will be prepared using MS Powerpoint presentation software and delivered in EERC 619. You should plan on approximately 20 minutes for your presentation, including a question and answer period. Each team will submit their topic choice for approval next week.

Deliverables

Topic selection: Week 10

Executive summary, MS Powerpoint Presentation file, 20 minute presentation: Week 13 and 14.

Topics

2. How does DC power transmission work?
3. The Future of DC Power transmission.
4. Providing wind energy to the power grid.
5. Designing and building the MTU 1.0 megawatt wind generator. Describe the factors that must be considered in a proposal.
6. What determines the amount of power that can flow down a transmission line corridor?
7. Describe how a variable frequency motor drive works.
8. Electric drives for automobiles - what is the state of the art?
9. The role of electric power in the current and future automobile designs (steering, braking, comfort, etc.)
10. CDMA/TDMA Cell phone systems
11. INMARSAT
12. Global Positioning System
13. AM, FM Commercial broadcasting systems
14. Commercial satellite radio systems (XM, Sirius)
15. PAL-NTSC Video transmission
16. HDTV
17. FRS Radio systems
18. Spread Spectrum Communications
19. Stealth Technology
20. Counter-Stealth Technology