

Project Information

A research project related to a topic in wireless communication is a required portion of this course. You should select 2-3 important papers on your topic and provide a detailed summary of the key results. If you wish to be more ambitious, you can also do some original research on your selected topic in addition to the literature survey, but this is not required.

- **Project Proposal:** A one-page proposal describing your project area and listing and briefly summarizing the papers you will be reading must be emailed to me by April 6.
- **Project Report:** A final writeup of the project is due on the last day of classes, Friday, May 5. The writeup should be between 5 and 10 pages (11 point, single spaced). I should be able to read the final report and understand the fundamental issues regarding your chosen topic, without having to read the references.

A short list of potential topics:

- Fading Models
- Synchronization
- Diversity Methods
- Coding Techniques (e.g., Turbo, LDPC, Convolutional)
- Interleaver Design
- Adaptive Equalization
- Peak-to-Average Power Ratio
- Direct Sequence Spreading Codes
- Space-Time Coding (MIMO)
- Wireless Standards (Cellular 2G/3G, 802.11, 802.16, 802.15)
- Downlink Scheduling
- Networking & Wireless

By no means should you feel limited to these areas - any wireless communication related topic with sufficient scope should be okay. I strongly encourage you to speak with me about your ideas for the project before the proposal deadline.