Graduate Special Subject
Spring 2016
16.399: Statistical Communication and Localization Theory
Units 3-0-9 G-Level
Schedule: Mondays and Wednesdays, 1pm – 2:30pm, Room 26-302

**Instructor:** Prof. Moe Z. Win

**Description:**
Rigorous introduction to statistical communication and localization theory, covering essential topics such as modulation and demodulation of communication signals, derivation of optimal receivers, characterization of wireless channels, and devising of ranging and localization techniques. Decision theory, estimation theory, and modulation theory are applied to the design and analysis of modern communication and localization systems exploring synchronization, diversity, and cooperation. Selected topics will be discussed according to time schedule and class interest.

**Prerequisites:** A strong background in probability (e.g., 6.041, 16.09), stochastic processes (e.g., 18.445, 6.263), statistical inference (e.g., 16.391, 6.434) and some familiarity with linear algebra (e.g., 18.06), or permission of the instructor. **16.399: Statistical Communication and Localization Theory**
G-level subject (3-0-9)