In EE127A we attempt to provide our students with:

1. An ability to quickly provide experimental data analysis results, involving large-scale linear algebra skills pertaining to the use of principal component analysis, factor analysis, and eigenvalue decomposition of symmetric matrices.

2. An ability to master optimization models in practice through the use of state-of-the-art prototyping software, such as CVX, with real-life data sets.

3. A familiarity with a substantial number of concrete engineering applications, ranging from intrusion detection in networks, to circuit or filter design, to the analysis of text documents or genetic databases.

4. A familiarity with basic statistical problems arising in the analysis of large-scale data sets.

5. A familiarity with the main theoretical tools and concepts of convex optimization.