EC516 Project Assignment 01 (Fall 2018)
Due By: **Wednesday, November 28,2018**

*This Project is worth a **bonus** of 10 points out of the total of 100 points on the EC516 Final Exam in EC516. However, your total score on the Final exam cannot exceed 100 points. For example, if you get 95 points on the EC516 Final Exam and you receive a full credit of 10 points on Project Assignment 01, your Final Exam score will be raised to 100 points (not to 105 points).*

You may carry out this project with up to two other partners. If you do the project with a partner, you must write down the name(s) of your partner(s) on the Project Report (see below) and specify the specific roles played in the project by each of the partners. Although you may collaborate with your partners in designing and implementing the project, your Project Report should be in your own words (Results displayed in the Report can be shared among the partners' Reports).

Assignment

(a) (*3 points*) Record and display a speech signal.

(b) (*3 points*) Compute and display the discrete TDFT of the recorded speech signal using a rectangular ("box") window whose duration is approximately 20 ms.

(c) (*4 points*) Use GFBS Method to compute the speech signal back from its discrete TDFT.

Deliverable

You should submit a *Project Report* of **at most 5 pages**. The report should describe the challenges you faced in carrying out the project and how knowledge from EC516 helped you carry out the project. The report may include displays of the recorded speech, its TDFT, and the signal synthesized using the GFBS method. You must include information such as the sampling rate for the recorded speech, the analysis window used, the temporal decimation factor, the frequency-sampling factor, and the synthesis window used in the GFBS method. It is **not necessary** to include any code in your report. However, if you decide to include it, you must stick to the 5-page limit for the report. Any pages of the report beyond the fifth page *will not be graded.*

If you have any questions, please don't hesitate to contact Prof. Nawab during office hours or via email.