**Quiz # 1** (ECE 493/593 Telehealthcare Engineering)

x/100

(Sep 6, 2012 Thursday)

* Only covers topics in the first 2 weeks (until mobile health lectures).
* Closed book & notes.
* 25 minutes in total. Total 100 points. 5% of your final grade.

**Question 1**. Briefly explain the following concepts (especially point out their differences).

 (1) Telemedicine; (2) Tele-Healthcare; (3) Mobile Health; (4) Biomedical Engineering.

**Question 2**. Why should we perform signal processing for medical signals? Give an example for each motivation.

**Question 3**. List the reasons of the noise in medical signals.

**Question 4**. What tasks can *machine learning* achieve?

**Question 5**. Explain the differences between signal classification and clustering.

**Question 6**. Use a graph to explain the concept of regression.

**Question 7**. How many networking technologies can be used for remote medical monitoring? List at least one example for each of the following categories: PAN, LAN, and WAN.

**Question 8**. What basic circuit components should exist in a medical sensor? Try to get hints from some examples of wireless communication devices such as cell phone.