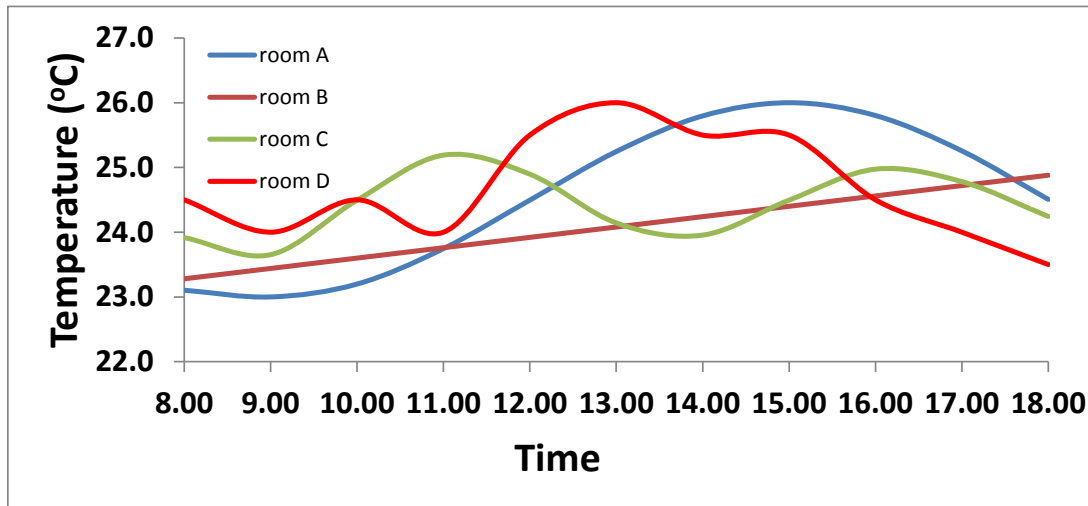


QUIZ on Lecture P1_Wk3_L6

1. The vibration criteria (VC) in the list below that corresponds to the lowest level of vibration is
 - a) VC-A
 - b) VC-B
 - c) VC-D
 - d) VC-E

2. Suppose your AFM system has a ± 0.20 nm noise in the z height measurement and the equivalent of ± 0.25 nm noise in the measurement of the cantilever deflection. Estimate the minimum height of a feature that can be just barely resolved.
 - a) 0.20 nm
 - b) 0.25 nm
 - c) 0.32 nm
 - d) 0.45 nm

3. Suppose that heating, ventilating and air-conditioning (HVAC) specifications for a building require that during the summer months, the temperature in any room in the building should be controlled to 24.5 ± 1.5 C. You measure the temperature vs. time profile in four different rooms from 8:00 to 16:00 hours, and all four rooms meet the required specification as shown in the graph below. Given your choice among these four rooms, which would you choose to locate your AFM lab?



- a) room A
- b) room B**
- c) room C
- d) room D

4. If you have a choice, which floor (level) in a general purpose lab building might be the best choice to set-up an AFM?

- a) The basement (ground) floor because this floor typically has the lowest vibration levels**
- b) The first floor because of easy entry and exit
- c) The second floor because it has many offices for the building administrators who don't walk around very much during the day
- d) The third floor because it is out of the way and foot traffic will be greatly reduced