It is raining out and you have to get from Collegetown to Hollister Hall.

• i) If your goal is to be hit by the least number of raindrops, should you:
   a) walk normally,
   b) run as fast as you can,
   c) the speed doesn't matter

Justify your answer. Assume the wind speed to be negligible (hence the rain is falling vertically at a constant velocity), the rain rate to be constant, and that you will travel at a constant speed over a straight line distance.

Hint: you might want to solve part (ii) first.

• ii) Consider a typical CEE3310 student as 1.70m tall, 0.40m shoulder-to-shoulder, and 0.40m front-to-back. If the rain is falling at a steady rate of $q = 1.0 \text{cm/h}$, with droplet velocity of $5.0 \text{m/s}$, what volume of water will hit a person walking rapidly at $2 \text{m/s}$ if the distance is 100m?

Hint: Depending on your approach, you might need to determine the fraction of any volume of air that is filled with water.