

OHTA pre-registration self-assessment for candidates

W502 Thermal Environment

The following are examples of topics covered in the course and calculations. Answers to all the following, and exam and homework questions are covered in the training course.

- What is heat stress and heat strain? How are they linked?
- What is homeostasis?
- What are the key factors which should be considered when deciding whether a person is suitable for work in hot environments?
- Using a portable instrument, measure and record the dry bulb, wet bulb and globe temperature within the lecture room. Repeat the exercise in the ambient atmosphere outside the building.
- If the air temperature outdoors is 16°C, and the globe temperature is 27°C and the natural bulb temperature is 14°C, what would the WBGT be?
- Using the following data, 1) What is the relative humidity and dew point? Use two different methods to determine the dew point. 2) What is the Normal Effective Temperature? What is the Normal Corrected Effective Temperature?
- Dry Bulb Temperature..... 30°C
- Natural Wet Bulb Temperature 20°C
- Air Velocity 0.5 ms⁻¹
- Globe Temperature..... 40°C
- Mean Radiant Temperature..... 52°C
- Intrinsic Clothing Insulation 0.5 clo
- Work Situation
- (approximate metabolic work rate) Moderate standing work inside a building (192 Wm⁻²)
- Personal Data Subjects young, fit and acclimatised