

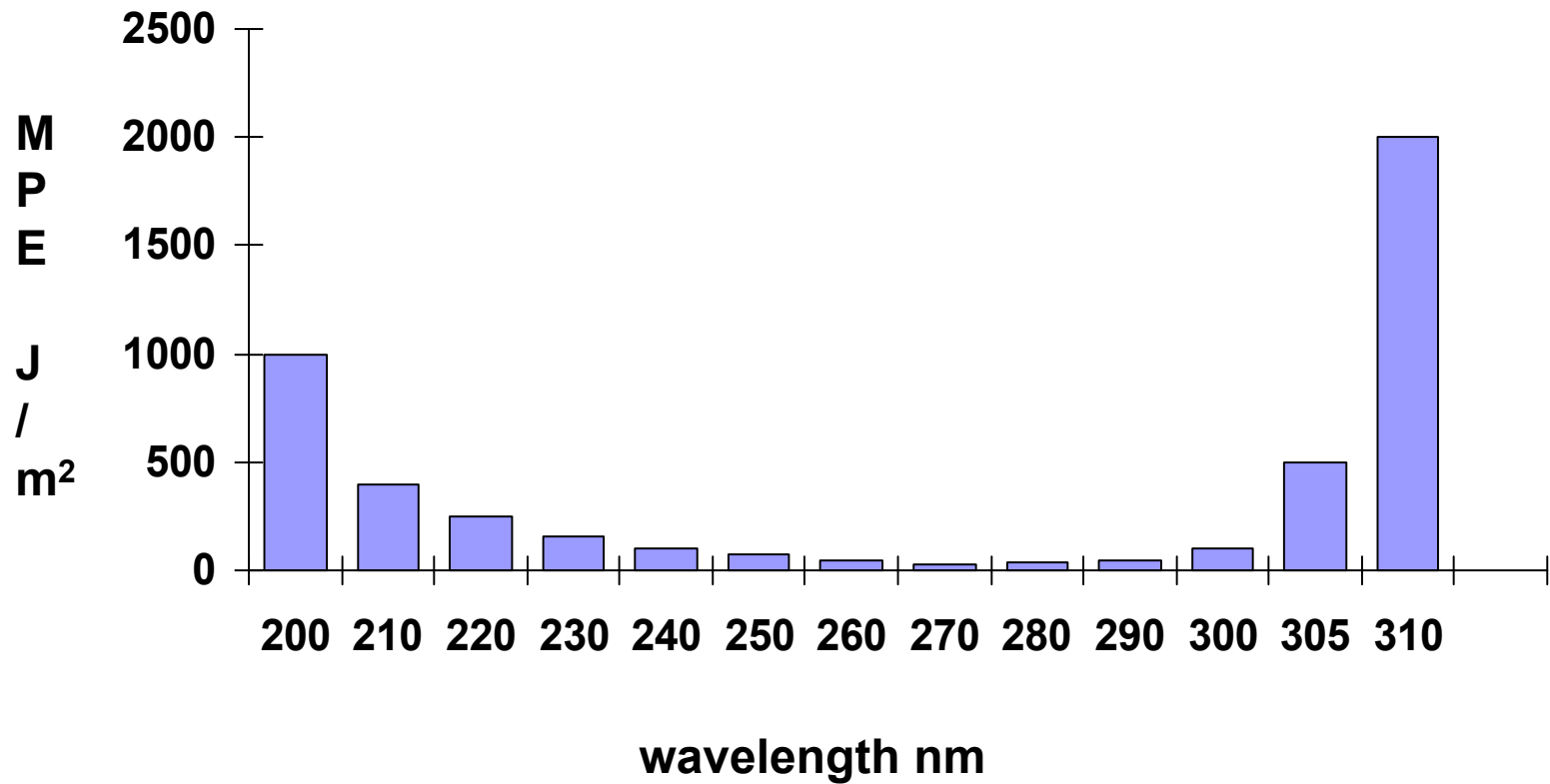
# UV

- **UVA**      **400 - 315 nm**
- **UVB**      **315 - 280 nm**
- **UVC**      **280 - 100 nm**

# UV Sources

- **sunbeds**
  - cosmetic tanning
  - treatment of psoriasis
- **disco lights**
  - nickel/cobalt oxide glass (wood's glass) emits UVA
- **germicidal lamps for sterilisation**
- **transilluminators**
- **outdoor work**
- **arc welding**
- **printing and curing**

# RELATIVE SPECTRAL EFFECTIVENESS - UV



# UV - Protection Against Overexposure

**NB - utilise time, distance and shielding**

- **Engineering Controls**
  - screening
  - interlocks
- **Administrative controls**
  - limitation of access
  - hazard awareness training
  - warning signs
- **Personal Protective Equipment**
  - protect skin (lab coat & gloves) and face/eyes (UV grade visor)

# MPEs

- The control measures required depend upon the hazard which depends upon the wavelength. The most hazardous types of lamp are germicidal lamps [254 nm] and transilluminators [297 nm].
- These have maximum permissible safe exposure levels [MPEs] that equate to a few seconds [ $<1$ min/day] for unprotected skin.
- For other devices, the MPE may be over several minutes.

# Using UV Equipment

- **If the output is in the “high hazard” range:**
  - Hand-held lamps should be mounted, pointing downwards, over a weakly reflecting surface. There should be good reason to want to maintain use in hand-held mode;
  - Users must ensure all body parts are covered (fastened lab coat & gloves) and wear a UV grade visor;
  - Any personnel in a 2m radius should also wear protective clothing and visor;
  - Equipment must only be used in a designated area with warning signs clearly posted;
  - Equipment must be switched off when not in use.