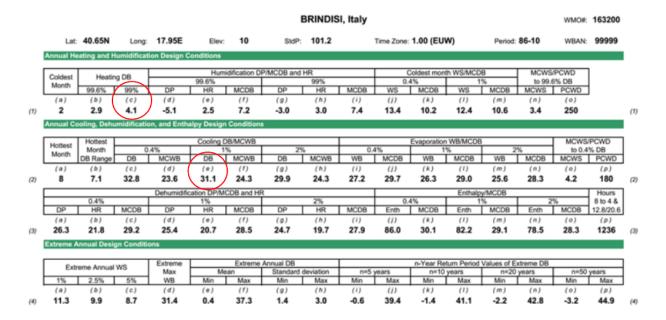
se a weather forecast website, and utilize the psychometric chart and the formula we went thro ne class to determine the absolute humidity, the wet-bulb temperature and the mass of water va ne air in Classroom A of Piacenza campus in the moment that you are solving this exercise Humic	apor in
elative humidity, Press one atmospheric: Air total pressure (1 hPa: 0.1 kPa), Temperature effecti emperature to be utilized. 16 December.	ve:

Relative humidity: 95 % Total air pressure: 102.1 kpa Effective Temperature: 6 C Absolute humidity: 0.005 Kg vapor / Kg dry air Wet bulb temperature: 5

Mv =PV V/ RV T P Total = Pa + Pv ② = 0.622 Pv / P- Pv 0.005= 0.622 Pv / 102.1- Pv Pv=0.814 Kpa Classroom A= 6\*10\*6=360 m2 Rv= 0.4615 T=279 k Mv = (0.814\*360)/ (0.4615\*279)

Utilize the same methodology we went through in the class and determine the sensible and latent load corresponding to internal gains, the ventilation, and the infiltration in a house with a good construction quality and with the same geometry as that of the example which is located in Brandis, Italy



Qig, s=136+2.2Acf+22Noc=136+2.2\*200+22\*2=620 W Qig, l=20+0.22Acf +12Noc=20+0.22\*200+12\*2=88 W

AL=Aes\*Aul=344\*1.4=481.6 cm2

Tcooling =24 °C, and heating temperature Threating =20 °C

Δ Tcooling=31.1 °C -24 °C=7.1 °C=7.1 K

 $\Delta$  Theating=20 °C -(-4. 1 °C)=24.1 °C=24.1 K

DR = 7.1 °C=7.1 K

IDFheating=0.073L/s\*cm2,

IDFcooling=0.033L/s\*cm2,

Qi, heating=AL\*IDFheating=481.6\*0.073≈35.157L/s

Qi, cooling=AL\*IDFcooling=481.6\*0.033≈15.893L/s

Qv=0.05Acf+3.5(Nbr+1)=0.05\*200+3.5\*(1+1)=17L/s

Qi-v,heating =Qi, heating+Qv~35.157+17=52.157L/s

Qi-v, cooling=Qi, cooling+Qv~15.893+17=32.893L/s

Csensible=1.23 , Clatent=3010,  $\Delta\omega$ Cooling=0.0039

Qinf-ventilation cooling sensible=CsensibleQi-v, cooling  $\Delta$ TCooling $\approx$ 1.23 \*32.893\*7.1 $\approx$ 287.25 W Qinf-ventilation cooling latent = ClatentQi-v, cooling  $\Delta\omega$ Cooling $\approx$ 3010 \*32.893 \* 0.0039 $\approx$ 386.13 W Qinf-ventilation heating sensible=CsensibleQi-v, heating  $\Delta$ Theating $\approx$ 1.23 \*52.157\*24.1 $\approx$ 1546.09 W