

To help you out, here are some examples of the types of questions you might find on the exam. You will find questions related to all of the lectures potentially including the MOF videos posted at the end. However, there will be no questions on the group presentations.

1. Describe the NiAs structure. How many anions and cations are present in a unit cell?
2. How would you classify NiAs?
3. Draw the projected view along the [001].
4. Please Draw and C-centered orthorhombic cell. How many total atoms are in this cell? What essential symmetry must it possess?
5. Calculate the unit cell volume a for a cubic cell from 211 reflection from a Cu source (1.54Å). Given $\sin^2\theta = 0.1671^\circ$ and $\sin^2\theta = \lambda^2 (h^2 + k^2 + l^2) / 4a^2$. Give the 2θ position of the 100 reflection if we use a Cu source for the above structure.
6. Why does no C-centered cubic cell exist?