

Questionnaire start meeting (15 to 20 min)

Why have you chosen this particular course?

What does the term “spectroscopy” refer to?

Can you list a number of spectroscopies and describe the characteristics of each of them in one or two sentences?

Think of an atom, say Argon. Could you describe and motivate what kind of results you would expect for a spectroscopic measurement of your choice?

What if you replace Argon by a di-nitrogen molecule?

Do you know the term “Morse potential”? What can such a potential be used for?

Does “LCAO” mean anything to you (and if yes what)?

What is angular momentum coupling? Can you mention one or more angular momentum coupling schemes?

What is characteristic for a crystalline solid? What does determine if the solid is a metal, a semiconductor, or an insulator? What about non-crystalline solids?

If you would like to measure the electronic band structure of a solid material, how would you proceed? In particular, which physical parameters would you change during your measurement and why?

Can you list a couple of theoretical (quantum mechanical) approximations/methods that are used in the calculation of structural and electronic properties of atoms, molecules, and solids? What are their characteristics?

Name:

E-mail:

Personnummer: