1.1.2 Required Background Knowledge

Mathematics

Not much. Familiarity with with basic undergraduate math will suffice.

General Physics and Chemistry

 Familiarity with thermodynamics (including statistical thermodynamics), basic solid state physics, and general chemistry is sufficient.

Materials Science

You should know about basic crystallography and thermodynamics. The idea is that you emerge from this course really understanding structural aspects of defects in some detail. Since experience teaches that abstract subjects are only understood after the second hearing, you should have heard a little bit about point defects, dislocations, stacking faults, etc. before.