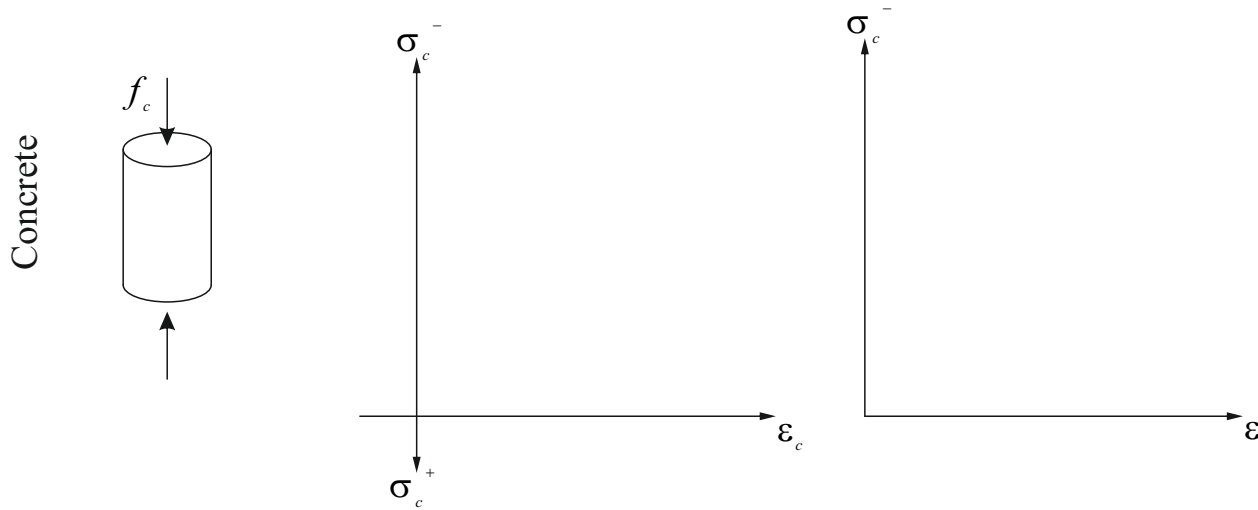


Behaviour of concrete, reinforcement, and reinforced concrete

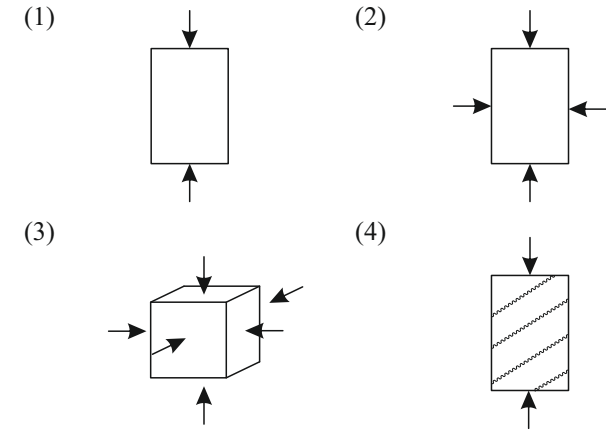
a) Uniaxial compression:

Draw the constitutive relationship of concrete for different concrete compression strengths (high, normal, low) and also the concrete behaviour assumed for design.



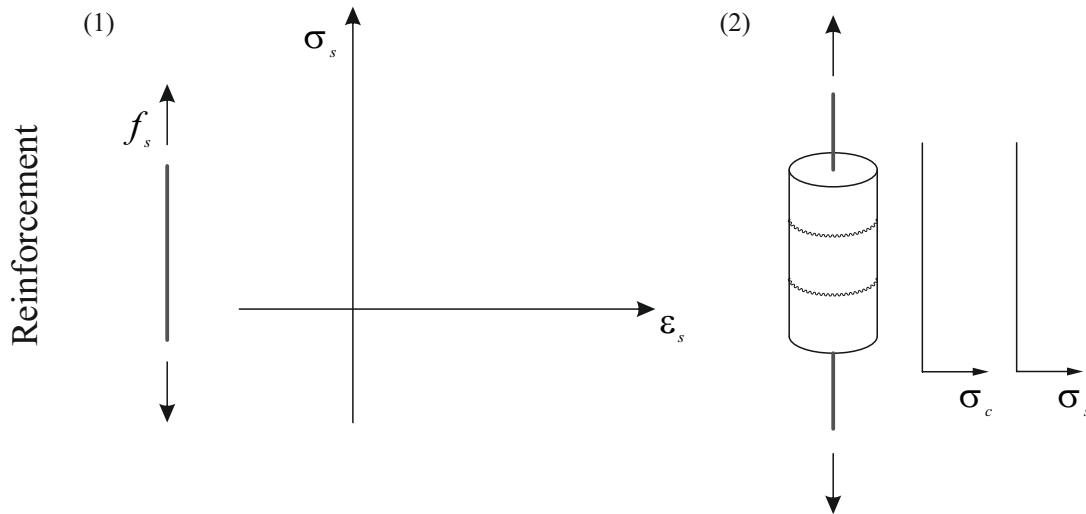
b) Normal strength concrete under various stress states:

Draw the constitutive relationship of a normal concrete strength under uniaxial (1), biaxial (2), triaxial (3) stress states, and cracked state (4).



c) Reinforcement:

Draw the constitutive relationship in tension of a reinforcing steel bar (1) and of a tension tie, i.e. concrete plus reinforcement (2). Think about the stress transfer in the tension tie between the cracks.



d) Strut-and-tie model and stress fields:

Think about a possible strut-and-tie model for the beam.

