



---

## Structure, Tectonics, Seismology (Domain E)

*[Note: Examples given below are descriptive only and are not all-inclusive lists of items]*

### E-1. Structural interpretation

- E-1.1 Three-point problems and structure contours
- E-1.2 Predicting depth and thickness of strata/faults
- E-1.3 Outcrop patterns and structural rule of “Vs”
- E-1.4 Interpretation of geologic maps and cross-sections

### E-2. Deformation styles

- E-2.1 Brittle deformation (e.g., faults, fractures, joints)
- E-2.2 Ductile deformation (e.g., folds)

### E-3. Structural fabrics

- E-3.1 Fabric development (e.g., linear, planar, shear)
- E-3.2 Fabric analysis (e.g., stereonet, rose diagram)

### E-4. Classifications

- E-4.1 Fault classification (e.g., dip-slip, strike-slip, oblique-slip)
- E-4.2 Fold classification (e.g., anticline, syncline, monocline)

### E-5. Mechanical properties of rock

- E-5.1 Stress, strain and strain rate
- E-5.2 Mohr circle (e.g., determination of shear strength, friction angle, cohesion)
- E-5.3 Conditions of brittle, brittle-ductile, and ductile deformation

### E-6. Seismic/paleoseismic history

- E-6.1 Exploration methods
- E-6.2 Age determination
  - E-6.2.1 Absolute age determination (e.g., OSL,  $^{14}\text{C}$ )
  - E-6.2.2 Relative age determination (e.g., cross cutting relations)

### E-7. Plate tectonics/tectonic regimes/earthquake processes

- E-7.1 General characteristics of earth layers (e.g., density, seismic velocity)
- E-7.2 Earthquakes at plate boundaries (e.g., depth and magnitude)
- E-7.3 Tectonics and volcanic activity

### E-8. Project planning and development (**PG Only**):

- E-8.1 Scope of work and cost estimate
- E-8.2 Literature and regulatory review
- E-8.3 Site-specific maps (GIS) and health & safety plan
- E-8.4 Site-specific data