

1. **(40 Points)** Exercise 103.
 2. **(30 Points)** Exercise 108.
 3. **(30 Points)** Exercise 110.
 4. **(40 Points)** Exercise 111.
 5. **(30 Points)** Exercise 118.
 6. **(30 Points)** Exercise 119.
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Reading assignment: Detailed exposure to topics discussed or those not covered in the class

1. **Energy related material:**

- (a) **Virtual work:** Abeyaratne Vol II, Problem 4.18, page 143.
- (b) **Energy conjugates:** Abeyaratne Vol II, Problem 4.20, 4.22, 4.23: pages 143-145.

2. **Constitutive equation:**

- (a) **Nonlinear isotropic solid:** Abeyaratne Vol II, 8.5.2.1, page 238.
- (b) **Compressive fluid:** Abeyaratne Vol II, 8.7.1, page 223.
- (c) **Popular nonlinear solid constitutive models:** Abeyaratne Vol II, 8.7.2 (neo-Hookean), 8.7.4 (Incompressible isotropic solid).
- (d) **6×6 stiffness matrix (Voigt notation):** This 6×6 stiffness matrix is easier to use than $3 \times 3 \times 3 \times 3$ elasticity tensor. Refer to section 2 (pages 10-15) of <http://rezaabedi.com/wp-content/uploads/2014/04/Elastostatics.pdf>
- (e) **Various anisotropy models for linear elasticity:** Saouma 7.3.1 Anisotropy, 7.3.2 Monotropic, 7.3.3 Orthotropic, 7.3.4 Transversely Isotropic, 7.3.5 Isotropic.