Exercise: Derivation of information form formulae for marginalizing and conditioning an MVN

Derive the equations for the marginal and conditional of an MVN in information form, i.e., show that

$$p(\mathbf{x}_2) = \mathcal{N}_c(\mathbf{x}_2|\boldsymbol{\xi}_2 - \boldsymbol{\Lambda}_{21}\boldsymbol{\Lambda}_{11}^{-1}\boldsymbol{\xi}_1, \boldsymbol{\Lambda}_{22} - \boldsymbol{\Lambda}_{21}\boldsymbol{\Lambda}_{11}^{-1}\boldsymbol{\Lambda}_{12}) \quad (1)$$

$$p(\mathbf{x}_1|\mathbf{x}_2) = \mathcal{N}_c(\mathbf{x}_1|\boldsymbol{\xi}_1 - \boldsymbol{\Lambda}_{12}\mathbf{x}_2, \boldsymbol{\Lambda}_{11}) \quad (2)$$