



Department of Mechanical and Manufacturing Engineering

ENME 619.02 – Mechanics of Porous and Viscous Materials

Dr. Leping Li

Winter 2020

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Wed 17:30 - 20:15, Room ENA 233

Review of linear elasticity; Phenomena of transient mechanical response; Creep and relaxation; Rheological models; Relations between creep and relaxation functions; Poroelasticity; Mixture theory; Quasi-static viscoelastic model; Numerical analysis for time-dependent problems; Nonlinear stress-strain relationship; Nonlinear viscoelasticity; Examples in biomechanics and applied mechanics (including guest lectures)

Prerequisites: Statics; Mechanics of Materials; Differential Equations (Basics)

Course Outline 2018: <http://people.ucalgary.ca/~leli/teaching/ENME619.pdf>

Note: This course was delivered in 2017 & 2018 (**Average GPA 3.74**). Seven students took it each semester. There was a good mixture of thesis and MEng students working in the areas in both traditional and biomedical engineering (**understanding is necessary for pipeline safety and tissue mechanics**). They enjoyed the casual learning environment. There will be lots of discussions during lectures.