REFERENCE BOOKS & NOTES:

David G. Luenberger, Optimization by Vector Space Methods, 1968

Showalter, Hilbert Space Methods for PDE (Chapter VII 1-4)
<a href="http://ejde.math.txstate.edu/Monographs/01/chpt7.pdf">

Jacques-Louis Lions, Optimal Control of Systems Governed by Partial
Differential Equations (Grundlehren der mathematischen Wissenschaften, 1972)

Mixed Variational Formulation: infsup, constrained min, penalty, Lagrange,

Girault & Raviart, Finite Element Approximation of Navier-Stokes Equations
        Section I.4: Saddle-point, Lagrange, penalty, Uzawa
Braess,Finite Elements, Theory & Appls in Solid Mechanics (III.3-4)
Glowinski, Numerical Methods for Nonlinear Variational Problems
        Chapter I.1-4, p. 289 and Chap. VI: penalty, Augmented Lagrangian

Showalter, Monotone Operators and Nonlinear PDE
        II.7-8: convex functions; IV.1-2: accretive operators

Brezis, Functional Analysis, Sobolev Spaces and PDE
        Chapter 1.4: conjugate convex functions

Ekeland & Temam, Convex Analysis and Variational Problems
        Chapters I-IV, VI: saddle-points, duality, calculus of variations

Ito & Kunisch, Lagrange Multiplier appoach to Variational Problems
        Chapter IV

TOPICS:

Elliptic Var Ineq & Optimal Control of EBVP	HSM, VII	Lions Chap 2
Minimization with constraint, closed range	MixedNotes	
Saddle-point, Lagrange, penalty, Uzawa	GR I.4	
Convex Optimization: ItoKunisch	Glowinski	GiraultRaviart

```
        min{f(x) + g(Lx)}        Chap 4        VI              I.4
Augmented Lagrangian:   Chap 3.3, 4.6        Glowinski       GiraultRaviart
(penalty + Lagrangian)                       p48             I.4.4
Duality                 Chap 4.3             Glowinski VII   Duvaut-Lions
                                             VII.5 p289,293  pp 121, 146
```