Study Topics for Test #1
ASE370 Flight Control Systems
Fall 2004
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Reading: Modern Control Systems, Dorf & Bishop
   Chapter 1
   Chapter 2, Sect. 2.1-2.6, 2.8-2.13,
   Chapter 3, Sect. 3.1-3.6, 3.9-3.12.
   Chapter 4
   Chapter 5, Sections 5.1-5.8, 5.11-5.14.
   Chapter 6

Study Topics

1.   Open-loop versus closed-loop control systems
2.   Basic principles of feedback and the tracking error
3.   Differential equation models of physical systems and solution methods
4.   Linear approximation of systems
5.   Laplace transforms, transfer functions, characteristic equations, and block
diagrams
6.   Input-output system models
7.   State-variable system models and relationships to input-output system models
8.   Feedback system characteristics
   a. steady-state errors (system type, error constants)
   b. transient response
   c. disturbance rejection
9.   System sensitivity
10.  Second-order systems and development and use of design formulas
11.  BIBO stability of linear systems
12.  Routh-Hurwitz criterion