SEMESTER	DEPARTMENT	COURSE TITLE
Sixth	*Control Engineering*	*Control Theory II*
COURSE CODE	**HOURS:** 3	**COURSE SPECIFICATIONS**
EC606	***UNITS: 3***	*Theoretical Contents*

1. ***Introduction to Digital Control.***
   - Discrete-time simulation with Simulink.
   - Time-domain controller emulation.
   - Frequency-domain controller emulation

2. Digital Effects

- Sampling, aliasing, zero-order hold.
- Discrete-time plant modeling.
- Filter structure and finite-precision effects.

3. ***State-Space Controller Design***

- State-feedback controller design.
- 11. State estimation and control design.

4. Transfer Function Controller Design:

- Frequency-response controller design.
- Numeric optimal PID controller design

References:

1. K. Ogata, "Discrete Time Control Systems, 2nd ed.", Prentice Hall, 1995.
2. B.C. Kuo, "Digital Control Systems, 2nd ed.", Oxford Univ. Press, 1992.
3. G.F. Franklin, J.D. Powell and M. Workman, "Digital Control of Dynamic Systems, 3rd ed." Addison-Wesley Publisher, 2006.