# King Saud University
# College of Engineering
# Electrical Engineering Department

### EE 301 - Signals & Systems

## Textbooks:

1- “Signals and Systems” by A. V. Oppenheim, A. S. Willsky, and S. H. Nawab, Prentice Hall, 1997.
2- “Signals and Systems” by C.-T. Chen, 3rd Ed., Oxford University Press, NY, 2004.

## Course Outline:

| Reference from textbook | Deliverables | Week |
|---|---|---|
| **1.0, 1.3-1.5** | Introduction to signals and systems. | 1 |
| **1.2** | CT, DT and digital signals, basic operations on signals. | 2 |
| **1.2** | Classifications of signals. | 3 |
| **1.5-1.7** | Introductions to systems. | 4 |
| **2.0-2.1** | LTI systems and DT convolution. | 5 |
| **2.2-2.3** | LTI systems and CT convolution. | 6 |
| **2.4** | Difference/ Differential Equations for LTI systems. | 7 |
| **Handouts** | Correlation analysis. | 8 |
| **3.0-3.12** | Fourier Series of periodic signals (CT and DT). | 9 |
| **4.0-4.2, 5.0-5.2** | Fourier Transform (CT and DT). | 10 |
| **4.3-4.8, 5.3-5.9, 7.0-7.3** | Properties of Fourier Transform, Sampling, Applications. | 11 |
| **9.0-9.10** | Laplace Transform, applications in system design. | 12,13 |
| **10.0-10.3** | Introduction to Z-transform, General Review. | 14 |

### Grading Policy:

**10%** Homeworks / Attendance.
**10%** Quizzes / Tutorial.
**40%** 2 midterm exams (20% each).
**40%** Final exam.

### Attendance Policy:

Any student who misses more than 25% of all lectures will not be allowed to enter the final exam.