Signal and System

Computer and Electrical Engineering - CRN 16959 - EE 3353 - 011

Class 7:30 pm - 8:50 pm, MW
Classroom Building C201

SYLLABUS

Instructor:

Wei Qian, Ph.D.
Professor
Department of Electrical and Computer Engineering
College of Engineering, University of Texas, El Paso
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Office Hours:

1:00pm - 3:00pm Tuesday/Thursday
8:00am – 2:00pm Monday/Wednesday

Prerequisites:

1. Calculus
2. Linear Algebra
2. Circuit and System

This course requires the desire to learn, enjoy challenges, ability to work in a team, curiosity, and knowledge of basic mathematics, physics, or consent of the instructor.

Textbooks:

**Course Objectives:**

To study and analyze characteristics of continuous, discrete signals and systems. To give students the mathematical tools to analyze and understand how signals and systems are processed in both the time and frequency domains, so that students have the foundations to excel in future required courses.

**Course Outcomes:**

Students completing this course will be able to:

1. Understand the characteristics of Continuous-Time signals and systems.
2. Use the Fourier Series, the Fourier Transform and the Frequency Response to analyze Continuous-Time signals and Continuous-Time, Linear-Time Invariant Systems.
3. Understand the characteristics of Discrete-Time Signals and systems.
4. Use the Z-Transform and the Discrete-Time Fourier Transform to analyze Discrete-Time signals and Discrete-Time-Invariant Systems.

**Topics covered:**

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<td>1, 2</td>
<td>Continuous-Time Signals and Systems</td>
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<td>3, 4</td>
<td>Convolution and Continuous-Time Linear-Time Invariant Systems</td>
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<td>4, 5</td>
<td>Fourier Series</td>
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<td>6, 7</td>
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<td>8, 9</td>
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<td>10, 11</td>
<td>Convolution and Discrete-Time Linear-Time-Invariant Systems</td>
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<td>11, 12, 13</td>
<td>Z-Transform.</td>
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<td>Difference Equations.</td>
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**Grading & Evaluation**

The course grade will be determined by homework (40%), and one midterm examination (30% total), and final examination (30%).