

EETE 3220	Digital Signal Processing	3 Credit Hours
Prerequisites	MATH 3120 and EETE 3102	
Goal	To provide the students with the basic understanding of the essentials of digital signal processing.	
Objectives		Outcomes
<p>The course should enable the student to:</p> <ol style="list-style-type: none"> 1. Know how to deal with discrete time signals and systems. 2. Grasp Z-transform and its applications. 3. Appreciate the structure and stability of discrete time systems. 4. Learn basic discrete-time Fourier analysis with emphasis on properties and applications. 5. Realize digital filter design with applications examples. 		<p>The students should be able to:</p> <ol style="list-style-type: none"> 1. Manipulate discrete-time signals and systems. 2. Represent discrete time signals and systems in terms of frequency domain. 3. Handle discrete time processing of continuous signals. 4. Define and utilize Z-transform. 5. Analyze linear time invariant systems in the z-domain. 6. Master linear constants coefficient difference equations with block diagram representation. 7. Recognize the conditions of stability of discrete time systems. 8. Apply discrete Fourier transform and inverse discrete Fourier transform. 9. Employ linear convolution using discrete Fourier transform. 10. Get acquainted with decimation in time and frequency. 11. Carry out digital filter design and applications.