COURSE DETAILS

Course Code: B39XO
Full Course Title: Signals and Systems (Ocean U)
SCQF Level: 9
SCAF Credits: 15
Available as Elective: No

DELIVERY LEVEL

Undergraduate: Yes  Postgraduate Taught: No  Postgraduate Research: No

Additional Information:
Ocean U equivalent course to HWU B39SA

COURSE AIMS

Introduce the analysis method for signals and the method of solving the signal by the linear time-invariant system

LEARNING OUTCOMES – SUBJECT MASTERY

Correctly analyze the types of signals and systems.

Use convolution to solve the response of linear systems.

Be familiar with the expansion method of Fourier series.

Apply the properties of the Laplace transform

Solve the system function H(S) of a linear system.

Application of band-pass filtering systems.

Signal correlation through autocorrelation function, energy spectrum and power spectrum analysis of linear systems.

The matrix expression of the equation of state and the meaning of each coefficient matrix.

LEARNING OUTCOMES – PERSONAL ABILITIES

SYLLABUS

Signal and system related concepts and basic principles.
B39XO Signals and Systems (Ocean U)

Basic theory and analytical method of linear system.

Method for analyzing LTI system in time domain and frequency domain.

Time domain and frequency characteristics of typical systems.

Description of signal in frequency domain and transform domain.

Intrinsic link between continuous time signals and discrete time signals.

Intrinsic link between periodic and aperiodic signals.

Basic ideas and methods for discrete time processing of continuous time signals.

Specific applications of signal and system analysis methods in the field of filtering and communication.

COURSE RELATIONSHIPS

N/A

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