CPE654: Design and Analysis of Network Systems

2017 Fall

Thursday 06:15 – 08:45 PM

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Weeks	Topics	Exercises

First Week	- Matlab Installation Packages
	  o Using a MathWorks Account
	  o File Installation Key
	- Fundamental Matlab
	  o Expressions
	    - Data Types, variables and assignment
	    - Operators and Functions
		- Installation and Activation
		- Examples in Data Types
		- Examples in Functions

Second Week	- Fundamental Matlab
	  o Control Flow
	    - Decision Making
	    - Loop Types
	  o Creating a new function and calling
	  o Vectors, Matrix and Array
	  o Graphics
	    - Bar
	    - Plotting – 2D and 3D
		- Examples:
		  o If Statements
		  o Loop Statements
		  o Arrays
		  o Graphs

Third Week	- Fundamental Matlab on Communication
	  o Digital Modulation Techniques, e.g.
	    - ASK modulation
	    - FSK modulation
	  o Communication Tools
		- Creating channel with noise source:
		  o ASK channel
		  o FSK channel
		- Explaining some tools

Software Requirements:

Operating Systems	Processors	Disk Space	RAM	Graphics
Windows 7 and above Mac OS Linux	Any Intel or AMD x86-64 processor	2.4 GB for Matlab only, 4-6 GB for a typical installation	2 GB with Simulink, 4 GB is required with Polyspace	No specific graphical card is required