

University: Anbar College: Department: Computer network systems Stage: Instructor name Academic status: Qualification: Place of work: University of Anbar

Course Weekly Outline

Course Name: Network Programming

Course Instructor					
E-mail					
Title	Network Programming				
Course Coordinator					
Course Objective					
Course Description					
Textbook	 Network Programming in Python: The Basic: A Detailed Guide to Python 3 Network Programming and Management (English Edition) Python Network Programming Cookbook - Second Edition: Practical solutions to overcome real-world networking challenges 2nd Revised edition 				
References	Kathiravelu, P. and Sarker, M.F., 2017. <i>Python Network Programming Cookbook</i> . Packt Publishing Ltd.				
Course Assessments	Term Tests	Laboratory	Quizzes	Project	Final Exam
General Notes	-	<u> </u>		<u> </u>	



University: Anbar College: Department: Computer network systems Stage: Instructor name Academic status: Qualification: Place of work: University of Anbar

Course Weekly Outline

W			Lab.	
/eel	Date	Topics Covered	Experiment	Notes
k			Assignments	
		Introduction		
		• Brief history of the net		
1		 Motivation and implication 		
		 Network Programing Features and Scope 		
		• An overview of Python networking		
		Network and Web Basics		
		 Network, hosts and addresses 		
		• Network types		
2		• Internet and World Wide Web		
-		• Network Models and Layering		
		OSI Reference Model		
		Network protocols		
		Network standards		
		Python Crash Course		
		Introduction to Python		
		• Python data types		
3		Working with lists		
5		 Dictionaries Input/Output 		
		• Functions		
		 Classes and OOP 		
		• Files and exceptions		
		Overview of Python Networking		
4		 Python networking support 		
		 Python networking libraries 		
		Addressing, Naming and DNS		
5		Handling IPv4 addresses		
5		Handing domain names		
		Handing IPv6 addresses		
		Socket Programming		
6		Socket concepts		
		• Sending/receiving data over a socket		
		• Buffer size and timeout		
		Blocking/non-blocking mode		



University: Anbar College: Department: Computer network systems Stage: Instructor name Academic status: Qualification: Place of work: University of Anbar

7	 TCP Programming TCP concepts TCP protocol and message format A simple TCP code alignt server application 	
8	UDP Programming UDP concepts UDP protocol and message format A simple UDP echo client-server application	
9	Midterm Exam	
10	 Python GUI Programming Python GUI frameworks Tkinter, wxPython, Kivy, PyQT GUI and networking in Python 	
11	Programming with HTTP for the Internet • HTTP protocol • Sending/receiving HTTP requests/responses • Serving HTTP requests and preparing/sending HTTP responses • Handling forms • Processing cookie information	
12	 Processing Emails Email protocols and handling SMTP(Simple Mail Transfer Protocol) programming POP3(Post Office Protocol - Version 3) programming IMAP(Internet Message Access Protocol) programming Work with Google Gmail 	
13	 Programming Across Machine Boundaries Telnet and remote access FTP and SFTP Transfering files with FTP Secure file transfer with SFTP 	



University: Anbar College: Department: Computer network systems Stage: Instructor name Academic status: Qualification: Place of work: University of Anbar

	Data/Messages Exchange	
14	• XML, JSON and CSV data formats	
	• Working with XML/JSON/CSV data in	
	Python	
	Multithreading and Multiprocessing	
	• Multithreading and multiprocessing	
	concepts	
	• Multithreading and multiprocessing in	
	Pythonc	
	• Multithread servers and clients	
15	Event-driven Programming**	
	• What is event-driven programming?	
15	• Event detection and handling	
	• Event-driven network programming	
	Web Services**	
	 Introducing Web services 	
16	• REST and SOAP	
	• Web services in Python	
	Web Applications**	
	• Web applications and frameworks	
	• Django, Web2py, Flask, Bottle	
	• Python Web development	
	•	

Instructor Signature:

Dean Signature: