



SWARNANDHRA

COLLEGE OF ENGINEERING & TECHNOLOGY

(AUTONOMOUS)

Accredited by National Board of Accreditation, AICTE, New Delhi, Accredited by NAAC with "A" Grade – 3.32 CGPA, Recognized under 2(f) & 12(B) of UGC Act 1956, Approved by AICTE, New Delhi, Permanent Affiliation to JNTUK, Kakinada Seetharampuram, W.G.DT., Narsapur-534280, (Andhra Pradesh)

DEPARTMENT OF ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING

TEACHING PLAN

Course Code	Course Title	Semester/ Regulation	Branch	Contact Periods /Week	Academic Year	Date of commencement of Semester
23AM3S01	PYTHON ROGRAMMING	II / (R23)	AIDS	2	2024-2025	30-7-2024

COURSE OUTCOMES

1	Understand the historical context and evolution of Python. [K2]
2	Develop problem-solving skills through hands-on exercises and projects involving functions, strings, and lists. [K4]
3	Apply built-in functions, methods, and constructors effectively to manipulate dictionaries, tuples, and sets. [K3]
4	Understand and implement OOP concepts such as classes, objects, inheritance, Polymorphism, and encapsulation. [K2]
5	Apply Python's libraries and modules effectively to address real-world data science challenges. [K3]

UNIT	Out Comes / Bloom's Level	Topics No.	Topics/ Activity	Text Book/ Reference	Contact Hour	Delivery Method
I	CO-1	1.1	History of Python Programming Language	T1,T2	2	chalk, talk, ppt
		1.2	Thrust Areas of Python	T1,T2	1	
		1.3	Installing Anaconda Python Distribution	T1,T2	2	
		1.4	Installing and Using Jupyter Notebook.	T1,T2	1	
		1.5	Python Programming Language: Identifiers	T1,T2	1	
		1.6	Python Programming Language: Keywords	T1,T2	1	
		1.7	Python Programming Language: Statements and Expressions & Variables	T1,T2	2	
		1.8	Python Operators	R1,R3	2	
		1.9	Precedence and Associativity	R1,R2	1	
		1.10	Python Data Types & Indentation Problem	R2,R3	1	
		1.11	Python Comments, Reading Input, Print Output, Type Conversions, the type ()	R1,R3	2	



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			Function and Is Operator,				
		1.12	Dynamic and Strongly Typed Language.	R2,R3	2	chalk ,talk, ppt	
		1.13	Control Flow Statements	R1,R3	2		
Total					20		
II	CO-2	2.1	Python: Built-In Functions Commonly Used Modules	T1,T2	1		
		2.2	Function Definition and Calling the function, return Statement and void Function	T1,T2	2		
		2.3	Scope and Lifetime of Variables	T1,T2	2		
		2.4	Default Parameters, Keyword Arguments, *args and **kwargs, Command Line Arguments.	T1,T2	1		
		2.5	Strings: Creating and Storing Strings, Basic String Operations, Accessing Characters in String by Index Number	T1,T2	2		
		2.6	String Slicing and Joining, String Methods, Formatting Strings	R1,R2	1		
		2.7	Lists: Creating Lists, Basic List Operations,	R1,R2	1		
		2.8	Indexing and Slicing in Lists,	R2,R3	1		
		2.9	Built-In Functions Used on Lists, List Methods, del Statement	R2,R3	1		
Total					12		
III	CO-3	3.1	Dictionaries	T1,T2	1	chalk ,talk, ppt	
			Creating Dictionary				
		3.2	Accessing and Modifying key:value Pairs in Dictionaries	T1,T2	1		
		3.3	Built-In Functions Used on Dictionaries	T1,T2	2		
		3.4	Dictionary Methods, del Statement	T1,T2	2		
		3.5	Tuples and Sets:	T1,T2	2		
			Creating Tuples, Basic Tuple Operations				
		3.6	tuple() Function, Indexing and Slicing in Tuples	T1,T2	2		
		3.7	Built-In Functions Used on Tuples	T1,T2	1		
		3.8	Relation between Tuples and Lists	R1,R2	1		
3.9	Relation between Tuples and Dictionaries,	R1,R2	2				



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			Using zip() Function,			
		3.10	Sets, Set Methods, Frozenset.	R1,R2	1	
Total					15	
IV	CO- 4	4.1	Types of Files, Creating & Reading Text Data	R2,R3	2	chalk ,talk, ppt
		4.2	File Methods to Read and Write Data	R2,R3	2	
		4.3	Reading & Writing Binary Files, Pickle Module	R2,R3	2	
		4.4	Reading and Writing CSV Files,.	R2,R3	1	
		4.5	Python os and os.path Modules	R2,R3	2	
		4.6	Object-Oriented Programming: Classes and Objects, Creating Classes in Python, Creating Objects in Python,	R2,R3	2	
		4.7	Constructor Method, Classes with Multiple Objects	R2,R3	1	
		4.8	Class Attributes Vs Data Attributes, Encapsulation,	R2,R3	1	
		4.9	Inheritance, Polymorphism	R1,R3	2	
Total					15	
V	CO-5	5.1	Operations on AVL trees, ,	R1,R2	2	chalk ,talk, ppt
		5.2	B-Trees	R1,R2	2	
		5.3	Heap Trees	R1,R2	2	
		5.4	Graph Traversals	R1,R2	2	
		5.5	Sorting techniques	R1,R2	3	
		5.6	Minimum cost spanning trees	R1,R2	3	
Total					14	
Cumulative Proposed Periods					76	
Textbook:						
S.No.	Authors, Book Title, Edition, Publisher, Year of Publication					
1	Mark Lutz, Programming Python,4 th Edition, O'Reilly Media,2011					
2	Clive Campbell, Python Programming: The Ultimate Guide from Beginner to Expert,2019					



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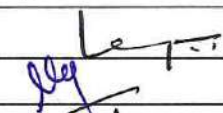
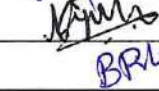
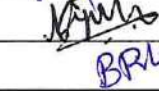
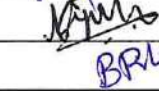
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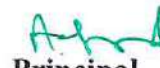
Reference Books:

S.No.	Authors, Book Title, Edition, Publisher, Year of Publication
1	Gowrishankar S, Veena A. Introduction to Python Programming, CRC Press, 2019
2	S Sridhar, J Indumathi, V M Hariharan, Python Programming, 2 nd Edition, Pearson, 2024
3	Y. Daniel Liang, Introduction to Programming Using Python, Pearson, 2017

Web Details:

https://www.coursera.org/learn/python-for-applied-data-science-ai https://www.coursera.org/learn/python?specialization=python#syllabus https://www.python.org https://www.geeksforgeeks.org/
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	Name	Signature with Date
i. Faculty	G.Lakshmi Narayana	
ii. Course Coordinator	Dr.G.Sudhakar	
iii. Module Coordinator	K.JaiPrakash	
iv. Programme Coordinator	Dr. B.Rama Krishna	


Principal