



Central University of Himachal Pradesh

(Established under Central Universities Act 2009)

Academic Campus, Shahpur, Distt. Kangra (HP) – 176206

[Website: www.cuhimachal.ac.in](http://www.cuhimachal.ac.in)

Course Title: Python for Life Sciences

(For students of other departments)

Course Code: BIN 474

Total Hours: 20

L	T	P	Cr
2	0	0	2

Learning Outcomes: At the end of the course, the students will be able to:

- Understand the basics of the computer programming.
- Apply the plethora of python libraries in a better way to solve the problem of

Unit I

Working with Data. A detailed tour of how to represent and work with data in Python. Covers tuples, lists, dictionaries, and sets.

Unit II

Students will also learn how to effectively use Python's very powerful list processing primitives such as list comprehensions.

Unit III

variables, reference counting, copying, and type checking. Program Organization, Functions, and Modules. More information about how to organize larger programs into functions and modules.

Unit IV

To design functions that are reliable and can be easily reused across files, exception handling, script writing, and some useful standard library modules.

Transactional Modes: Laboratory based practicals; Problem solving; Self-learning.

Suggested Readings:

1. The Python Tutorial (<https://docs.python.org/3/tutorial/>): This is the official tutorial from the Python website. No more authoritative source is available.
2. Code Academy Python Track (<http://www.codecademy.com/tracks/python>): Often cited as a great resource, this site offers an entertaining and engaging approach and in-browser work.
3. Learn Python the Hard Way (<http://learnpythonthehardway.org/book/>): Solid and gradual. This course offers a great foundation for folks who have never programmed in any language before. [Python 2]