DOTTORATO

Scienze e Tecnologie Biomediche

Prof. Daniele Toti,
Dipartimento di Matematica e Fisica
Università Cattolica del Sacro Cuore, Brescia

Fundamentals of Programming for Biological Sciences

The course covers the following areas: (1) Basic Python syntax, assignments, variables, operators, and introduction to PyCharm IDE. (2) The definition, usage, and debugging of different types of functions, including Python's built-in and custom libraries. (3) An exploration of data structures such as strings and collections, alongside the concept of 'objects' in Python. (4) Deeper understanding of function concepts, file, and memory management, alongside advanced exception handling. (5) Principles of object-oriented programming including classes, objects, abstraction, encapsulation, inheritance, polymorphism, and their implementation in Python. (6) Advanced object-oriented concepts, design patterns, and software architectures, alongside principles of recursion and date/time management. (7) Introduction to Numpy, Matplotlib, and Pandas libraries for scientific computation and data visualization. (8) Introduction to biomedical-focused libraries like RDKit and BioPython, including an overview of free biomedical research software.

The course will be held online. Course schedule:
Friday 15 November 2024, 9:30-13:30
Thursday 28 November 2024, 9:30-13:30
Friday 29 November 2024, 9:30-13:30
Thursday 5 December 2024 ore 9:30-13:30

I seminari sono obbligatori per i dottorandi *di: Scienze e Tecnologie Biomediche*

Tutti gli interessati sono invitati a partecipare
Info and registration: *Prof. Daniele Toti –* *daniele.toti@unicatt.it*