**Subjects included in the program, which are not taught by the instructor in the audience, but which are to be studied freely by the students:**

1. Parallel processors and parallel computing.

2. The role of operating systems: Processors, Threads, Virtual memory, Files.

3. Computer systems communication: Networks.

4. Composite Data Types and Memory Objects.

5 . Representing algorithms. Pseudocode. High-level Programming Language.

6. Data Structures. Linked Lists. Singly Linked Lists. Doubly Linked Lists. Sorted Linked Lists.

Linked Lists Algorithms.

7. Arrays. One-dimensional Arrays. Multi-dimensional Arrays. Triangular Arrays. Sparse

Arrays. Matrices.

8. Stacks and Queues. Linked-List Stacks and Queues. Array Stacks and Queues. Double

Stacks. Specialized Queues. Stack Algorithms.

9. Sorting Algorithms: STL sort, swap sort.

10. Introduction to Object Oriented Programming.

11. Programming languages defining the future of coding.

12. Most Popular and Influential Programming Languages of 2020.

13. Security. Overview of threats, cryptography, authentication, and firewalls.

14.Parallel and Multiprocessor Architectures. Distributed Computing.

15.Programming Tools. Interpreters. Dynamic Link Libraries.