

# Software Information Technology BSc.



## 1. Major/course type

Normal and correspondence course

## 2. Scheduled time of training

6 semesters for both normal and correspondence course. The normal course has on the average 25 lessons per week.

## 3. The goals of training

The goal of the Software Information Technology BSc. training is to teach such IT professionals, who are able to participate in creating, maintaining, developing, and applying software oriented tools and systems of informatics either alone or in a team. To have the needed depth of knowledge to learn even further in the second stage of education in this area to reach the degree of MSc. (Master of Science), which have its roots in the BSc. Training.

The Software Information Technology BSc. training is the basic part of the linear education, which was proposed for higher education in the Bologna declaration. The Bologna declaration seeks a common European answer to common European problems. Its main goals are to have an easy and transparent system of qualification and certification; a higher education having two main stages; the promotion of the credit-system which enables mobility of both students and teachers; methods and ways of comparisons for European cooperation; quality assurance and the expression of European interests and values in higher education.

## 4. The designation of the certification:

The certification entitles to be a: ***Software Information Technologist***

Level of qualification: *basic level (Bachelor of Science, BSc.)*

Training area: *informatics*

## 5. The ideal applicant

Please apply to this course, if:

- you have an interest towards new things, logical thinking and creativity
- you like spending time with computer science and informatics and also you like coding and programming
- you are interested in the inner workings of the computers, the networks, and the Internet
- you would like to come to know the art of programming, the algorithms, the modern tools of making software, the various programming languages, the object-oriented approach, database management, computer graphics, artificial intelligence, dynamic web-programming
- you think the importance of practical mathematics is high
- you want to part take in the application of the Bologna process in Hungary, which aims to harmonize the European higher education.

## 6. Main subjects

### ***Base subjects:***

- Fundamentals in Mathematics and natural sciences (Introduction to informatics, Discrete Mathematics, Calculus, Numerical mathematics, Operation research, Combinatorics and probability, Computer statistics)
- Fundamentals of computing science (Logical bases of informatics, Automata and formal languages, Data structures and algorithms, Development and analysis of algorithms, Artificial intelligence, Introduction to computer graphics)

### ***Professional subjects:***

- Software-technology module (High-level programming languages, Compilers, Programming technologies, Development environments, Assembly languages)
- System-technics module (Computer architectures, Operating systems, Network architectures and protocols, Tools and services of the Internet)
- Informatical systems module (Database systems, Database management, System-organization, System-developing technologies)

### ***Free-choice subjects:***

- Word-processing and presentations, Spreadsheet systems, The history of informatics, Descriptive geometry)

### **Specializations**

- The students choose a specialization in their second semester. Their thesis will be defended in the final examination.
- Data models (Database management 2, OO data models, Advanced DBMS).
- Networks (Efficiency of networks, Server administration, Dynamic WEB programming, Broadband local and metropolitan networks).
- Computer graphics and geometry (Computer graphics, Graphical systems, Geometrical modelling, Multimedia)
- Mathematical methods in informatics (Neural networks, Computer statistics 2, Operation analysis 2, Cryptography, Computer algebraic systems)

## **7. Further education, PhD**

The students may choose after successful completion of this stage to advance by attending the university/MSc. stage of their education, which would take 4 semesters at ELTE or the University of Debrecen or the University of Szeged.

## **8. "The beauty of the profession"**

The Software Information Technology is an IT professional, who is able to utilize effectively his/her gained knowledge in practice and in several areas of the business world. Our students will be able to maintain, create and develop computer sciences. Applying this knowledge it will be achievable to model mathematically various systems, creating software, dynamically using development technologies, using and maintaining databases.

## **9. Job possibilities**

Informatics is getting used in a broadening set of business world areas. As such the need for IT professionals is getting higher. Experiences show that professional knowledge is well sought after, and the earned credits are accepted in whole Europe.

## **10. Further information**

Eszterházy Károly College - Educational Center and Entrance examination Group

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