

Students
15-55
Years old

Software

Development

Mode of Study
Full-time

1380 Academic hours

3 times a week for 4 academic hours

Mode of Study
Part-time

690 Academic hours

1 time a week for 6 academic hours

EDUCATION PROGRAM

Basics of algorithm theory and data structures

Basics of programming using C++:

- Pointer operation principles.
- Use of structures.
- Search and sort algorithms.
- Use of the file system.

Object-oriented programming using C++:

- Principles of OOP.
- Constructors.
- Destructor.
- Virtual functions.
- Abstract classes.

Use of the Standard Template Library (STL):

- Basic usage of STL.
- Iterators.
- Containers.
- Predicates.
- Algorithms.
- Functors.

Database theory:

- Structured Query Language (SQL).
- Database design.
- Normalization of databases.
- Normal forms.
- Multi-table and nested queries, aggregate functions.

Microsoft SQL Server programming:

- T-SQL dialect features.
- Views.
- Triggers.
- Stored procedures.
- User-defined functions.
- Backup and recovery.
- Rights system.

Database Management Systems.

Programming of Oracle DBM. PL-SQL language.

System programming:

- Threads.
- Processes.
- Synchronization primitives.
- Interprocess communication.

Network programming:

- Sockets.
- Synchronous and asynchronous data exchange mechanisms.
- Protocols.

Development of web pages using HTML markup language with cascading style sheets (CSS):

- Text formatting using HTML.
- Formatting with CSS.
- Lists.
- Use of tables.
- Working with HTML forms.
- Animation.

JavaScript scripting language:

- OOP in JavaScript.
- jQuery.
- Angular.
- React.

Creation of web applications executed on the server side using PHP and MySQL DBMS:

- Use of cookies.
- Application of the session mechanism.
- Interaction with MySQL DBMS data sources.
- Laravel.

Development of applications using Client-Server technology.

Creation of applications for the Microsoft.NET platform:

- Basic language of .NET solution implementation - C#.
- Basic class library BCL.
- Development of applications using Windows Forms.
- Principles of building Windows applications.
- Interaction with controls.
- Building user interfaces.
- Interaction with data sources using ADO.NET.
- Development of applications using WPF.
- LINQ.
- Entity Framework.

Development of web applications using ASP.NET Core in C# with MS SQL Server DBMS:

- ASP.NET Core.
- Interaction with MS SQL Server.
- Creation of microservices.

Programming using Java technology:

- OOP.
- Multithreading.
- Spring.
- Hibernate.
- SP.
- MVC.



Upon completion of their studies, students will be prepared to take certification exams for the following certification programs:

CompTIA A+ 220-1101 and A+ 220-1102.
Oracle: 1Z0-819. Microsoft: AZ-900, 98-361, 98-364, 98-375, 98-383 IT Essentials.
PC Hardware and Software.

Development of mobile applications based on the Android operating system:

- User interface design.
- Use of notifications.
- Use of standard dialogs.
- Graphics, animation.
- Use of databases in Android applications.
- Asynchrony.
- Networking capabilities.
- Web services.

Game development:

- Unity.
- Development of 2D games.
- Development of 3D games.

Design patterns:

- Creational patterns.
- Structural patterns.
- Behavioral patterns.

Object-oriented design. UML language:

- Object-oriented analysis and design methodology.
- Diagrams in UML.
- Tools for building diagrams.

Software project management:

- Models of software development processes.
- Agile.
- Scrum.
- Instrumental means.
- Working with requirements.
- Quality management.

Hardware for workstations and laptops.

Administration of OS Windows 10.

AUTHORIZED CISCO NETWORKING ACADEMY AND MICROSOFT IMAGINE ACADEMY COURSES INCLUDED IN THE TRAINING PROGRAM:

Cisco Networking Academy:

Programming Essentials in C.
Programming Essentials in C++.
Advanced Programming in C++.

Microsoft Imagine Academy:

Introduction to Data Science.
Data Science and Machine Learning Essentials.
Database Fundamentals.
HTML5 Application Development Fundamentals.
Using Data in Software Applications.
Working with Non-Relational Data.
Introduction to Developing Websites Using HTML and CSS.

AFTER COMPLETING THE «SOFTWARE DEVELOPMENT» SPECIALIZATION, GRADUATES WILL BE ABLE TO:

Create Windows applications

using client-server technologies, graphics, databases, and multimedia.

Correctly and quickly calculate algorithms

for solving assigned tasks and the cost of their implementation.

Design databases

of varying degrees of complexity and size, and manage them.

Develop Internet applications

that respond to user actions and represent information stored in databases.

Automate work with databases,

with one or multiple databases simultaneously, depending on the task or customer requirements.

Participate in the development of computer games.

Modify Windows programs

for specific orders.

Develop network applications.

Develop applications for mobile devices

based on Android.

Create utilities

that solve everyday user problems.

Create applications and dynamic web nodes

based on the .NET platform.

Ensure application security

using encryption algorithms, authentication, and secure connections.

Design software projects,

regardless of the implementation language.

Manage all aspects and intricacies of software projects.

To document created applications.

Create cloud solutions

using Microsoft Azure capabilities. Apply modern methodologies for successful team work.

Use design patterns

in everyday work activities.

Program cross-platform solutions.

23

years on the market

200+

branches

4,8

average rating

2 800

lectures

72 000+

students

1 000+

reviews

Philippines:

11th Drive, corner 9th Ave, unit 1214,
Taguig, NCR phone 02 70057853

Malaysia:

A2-6-3, Soho Suites KLCC, 20 Jalan
Perak, Kuala Lumpur, 50450

Indonesia:

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5515737748

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Lomas de Angelópolis, 72830 San
Andrés Cholula, Pue
22 1572 8200

Republic of South Africa:

62 Fairway Close, Parow, Cape Town,
7500
+27 78 769 4819
021 879 30 86

Turkey:

İzmir; Konak; Akdeniz district Kazım
dirik street Gayret Han No of building:
4 floor: 2/24 0232 335 15 74

İstanbul, Osmanaga district
Suleymanpasa street, building: 2-4,
floor: 5 Kadıkoy-İstanbul
+902167069793

Antalya, Muratpaşa district, Kışla
neighborhood, 45. Street, Building
number: 20 Door number: 101-102
02422550269

Mersin, Mezitli, Atatürk district.
31087 street. 2/A
03245033001

Bursa, Fethiye neighbourhood,
Alev(240) Street, Corner Plus business
center site Corner Plaza no: 10 inner
door 70 Nilüfer
02243220704

* data is valid
as of the beginning of 2024