Study programme: **Information Technology**

Degree: **IT Engineer**

Duration: **2 years / 120 ECTS**

Practical training: **400 hours/year**

STUDY OBJECTIVES

GENERAL

Basic soft skills. The students acquire soft skills of business communication in Slovenian and the foreign languages (options: English or German), organization and management, entrepreneurship, and economics of information engineering projects. During the studies they develop their teamwork skills, ability to perform in public, think critically and solve problems.

Basics of computing and informatics. The students define the basic algorithms for performing computer operations and describe the application programming process. They explain the characteristics of procedural, object-oriented, and event-oriented programming and perform analyzes of the appropriate integrated development environment. They implement basic algorithms in the code using the IDE. They present the principles of computer networks and their protocols and create an efficient computer network. They perform and diagnose computer networks. They learn to develop a fully functional system of relational databases and test them according to the client's requirements. In the field of security, they will assess risks, propose solutions, and learn the principles of security management.

Module: SOFTWARE ENGINEERING

Data structures and algorithms. The students learn about abstract data types, concrete data structures, and algorithms. In the official record, they will specify abstract data types and algorithms. They will use complex data structures and algorithms and evaluate their effectiveness.

Advanced programming. The students learn about the key components associated with an object-oriented programming paradigm that analyzes design types. They learn to design a set of diagrams and generate code using design patterns. Depending on the design patterns, they explore different scenarios.

Module: SYSTEMS ENGINEERING

System engineering. The students learn the principles of LAN design and their application in the network design process. They set up a network using LAN design principles based on a predefined set of requirements. They prepare an appropriate WAN solution for a set of organizational requirements. They learn to solve a range of network-related problems using appropriate troubleshooting techniques and methods.

Cloud computing and network security. The students learn the basics of cloud computing and its architecture. They evaluate deployment models, service models, and cloud computing technology

drivers and verify their usability. They develop cloud computing solutions using the provider's structures and open-source tools. They analyse the technical challenges for cloud applications and assess their risks. They present the principles, protocols, and standards of a secure network. They learn to create a secure network for the business environment. They learn to design measures for a secure network in a business environment and perform network testing according to a plan.

Course list: Information Technology

COURSE	ECTS
Foreign language for specific purposes (EN/DE)	6
Business communication and management	6
Computer science and informatics	5
Operating systems I	4
Basic structure and operation of computer systems	5
Computer communications and networks I	6
Programming I	7
Databases I	7
Business economics	6
Practical Training I	15
Elective module: SOFTWARE ENGINEERING	
Programming II	6
Software application development	4
Databases II	6
Information systems	5
Website design	5
E-commerce	5
Practical Training II	12
Elective module: SYSTEMS ENGINEERING	
System software maintenance	5
Operating systems II	5
Computer communications and networks II	5
Security and protection	5
Communication technologies and services	5
Computer controlled processes	5
Practical Training II	12
Free-elective course	5
Diploma paper	5