

ECCC SYLLABUS

MODULE: **IT M4 DATABASES**

LEVEL: **ADVANCED (C)**

This module exam includes all competences from the basic level **(B)**, extended with competences listed below.

COMPETENCE GROUP	COMPETENCE WITHIN ECCC STANDARDS
1. Theory of databases	1.1. Designing relational database - Entity Relationship Diagram (ERD). 1.2. Programming interfaces in databases. 1.3. Distributed databases (the client - server architecture). 1.4. The notion of database transactions. The ACID model.
2. Database administration	2.1. The practical usage of DDL and DML languages. 2.2. Importing and exporting data to / from SQL database. 2.3. Data security. 2.4. Database optimization and normalization.
3. Queries	3.1. Constructing selective queries in a relational database using SQL. 3.2. Constructing functional queries using SQL. 3.3. Constructing join queries.
4. Reports	4.1. Creating reports based on SQL queries. 4.2. Printing the reports in various formats.

Preferred software for completing tasks for level C (Advanced):

- MySQL + Apache + PHP + Jasper iReport 3.1 + JRE + MySQL WorkBench