Course description:
A well-designed application processing and presenting data has multiple layers and components with specific odpowiedzialnościach. The aim of the lecture is to show how well this type of application design and program. During the lectures and accompanying workshop will explore and build new elements solutions to finally get a complete working system.

Program
It consists of two main parts

Part 1: DBMS

1. Basics of Microsoft SQL Server
2. SQL language
3. Programming in T-SQL cursors in this
4. Triggers, functions and procedures
5. Transactions and locking
6. Optimization in this normalization, indexes and execution plans

Part 2: Information system

1. Application architecture to the database. Introduction to DDD
2. Fundamentals of testing
3. pattern repository
   - ORM tool on the example of NHibernate
   - LINQ
4. Presentation of data
   - ways of presenting information
   - paging, sort, filter, and use of standard specifications
5. data Validation
6. Data models and AutoMapper
7. system integration
   - integration patterns
   - data services, OData protocol
8. Architecture microservices
9. Scalability, pattern CqRS
10. Trasakcjami management, distributed transactions
11. Non-relational approach: practical application

Requirements: Ability to program on any platform and programming knowledge of the material from the course Web