

<b>Course title:</b> Databases 1 (code: IM01)		
<b>Course status:</b> elective		
<b>Number of ECTS:</b> 7		
<b>Requirements:</b> None		
<b>Learning objective:</b> Educating student for modelling, creating and using (SQL queries) relation data model, as well as mastering the principles of operating DBMS.		
<b>Learning outcome:</b> <i>Expected:</i> At the end of the course, student should be able to create a relation data model for an illustrated example of a real system using appropriate CASE tool; based on that model he/she should be able to create database and to demonstrate few examples of SQL query. <i>Desired:</i> student should be able to understand the basic principles of modelling and create a relation data model for an illustrative example of real system using the appropriate CASE tool, execution of SQL queries and functions of DBMS.		
<b>Course content</b> <i>Theoretical part:</i> Basic terms and principles. Concept of databases. Basic data models. Entity-relation model and its connection to object data model. Relation data model. SQL - query language for manipulating data. Translation of ER model into relation data model. Separation of logical and physical data structure. Functions of database system management.  <i>Practical part:</i> Creating ER model for illustrative examples of systems using appropriate CASE tool. Creating a relation data model by translating ER model using appropriate CASE tool. Managing data using illustrative SQL queries.		
<b>Total hours</b>	<b>Lectures:</b> 2	<b>Practicals:</b> 3
<b>Methods of instruction:</b> Classical teaching methods using video beam. Basic principles of databases are explained and illustrated on appropriate examples. Practical exercises involve creating ER model and its translation into relation data mode using appropriate CASE tool. Also, students learn how to create and execute SQL queries using computers. At the end of course each student gets practical assignment which includes creation of ER model and its translation into relation data model. At the oral exam student must defend his/her assignment through answering questions regarding created model. Student also demonstrates his/her knowledge of basic principles of DBMS.		