

Syllabus

Course description

Course title	Information Systems and Data Management
Course code	27006
Scientific sector	ING-INF/05
Degree	Bachelor in Economics and Management
Semester and academic year	2nd semester 2018-2019
Year	1
Credits	5
Modular	No
Total lecturing hours	50
Total lab hours	0
Total exercise hours	50
Attendance	not required; for non-attending students additional study material which covers the entire course is available
Prerequisites	English understanding and reading at level B2. Basic computer usage, in particular Microsoft Windows and file handling.
Course page	
Specific educational objectives	The course is designed to acquire advanced computer skills in data management and data organization, to provide knowledge of legal requirements when handling data, basic data organization and extraction techniques.
Lecturer	Andrea Molinari Andrea.Molinari@unibz.it
Scientific sector of the lecturer	ING-INF/05
Teaching language	English
Office hours	please refer to the lecturer's timetable
Lecturing assistant	None
Teaching assistant	Tbd
Office hours	please refer to the teaching assistants' timetables
List of topics covered	<ul style="list-style-type: none"> • Role of computer in today's organizations, Information Systems and its components, the role of software in Information Systems, Computer networks, Information System Security. • Microsoft Excel, basic graphs, formulas, functions, financial and statistical Excel applications. Functions • Relational databases, the SQL language, relations, queries, summary queries, forms, reports. • Basic programming usage with R
Teaching format	Frontal lectures in standard classroom with examples and class exercises. Students follow the lesson through their own notebooks.

	Interactive exercises in standard classroom and in computer room held by the teaching assistants.
Learning outcomes	<p>Knowledge and understanding:</p> <ul style="list-style-type: none"> • Basic knowledge of Information System, their components and the role of software • Basic Knowledge of computer network system • Knowledge of threats, security and legal obligations of automatic data handling • Deep knowledge of a spreadsheet program with functions to ingest, transform and clean data • Knowledge of a relational database • Basic knowledge of database interaction through queries, summary queries, forms and reports <p>Applying knowledge and understanding:</p> <ul style="list-style-type: none"> • Advanced ability to analyse and organize economic datasets through spreadsheets • Ability to perform financial calculations with a spreadsheet program • Very basic programming knowledge in spreadsheet environments • Ability in data organization through a relational database • Ability in data extraction from a database management program <p>Making judgments</p> <ul style="list-style-type: none"> • Evaluating the role of Information systems inside a modern organization • Distinguish software types and licences formats • Decide which techniques to use when organizing and managing data <p>Communication skills</p> <ul style="list-style-type: none"> • Building efficient and appropriate graphs • Building data summaries <p>Learning skills</p> <ul style="list-style-type: none"> • extracting, cleaning and transforming data • Extending Excel functions through VBA • Understanding advanced database structures • Writing SQL queries to extract data from any relational datasource
Assessment	<ol style="list-style-type: none"> 1. Written test to assess knowledge on basic information systems from the theoretical material. May be replaced by a mid-term. 2. Practical assessment to test data organization, handling and modification through Excel and its financial functions. May be replaced by a mid-term.

	<p>3. Written assessment to test abilities to understand a basic data organizational problem and extract data from a relational database. May be replaced by a mid-term.</p> <p>4. Practical assessment to test data management and programming through R.</p>
Assessment language	English
Evaluation criteria and criteria for awarding marks	<p>Grade is the weighted average of assessment 1 (20%), assessment 2 (40%), assessment 3 (20%), assessment 4 (20%). File handling and severe basic computer errors count negatively on the final grade.</p> <p>Particular emphasis is given to solutions which are optimal, efficient and extensible.</p> <p>To pass the exam, students must have a sufficient weighted average of the four parts</p>
Required readings	<ul style="list-style-type: none"> • For the theoretical and practical parts, specific materials will be provided in form of slides by the teacher and the teaching assistants • For those students not having a sufficient basic Computer skills or that need some integration, refer to video materials • www.paolocoletti.it/informationsystems27006 for basi computer skills • Videos on Excel, databases and Access available on www.paolocoletti.it/informationsystems27006 • Databases course book, available on www.paolocoletti.it/informationsystems27006
Supplementary readings	None