



COURSE DESCRIPTION

1. Information about the programme

1.1 Institution of higher education	Alexandru Ioan Cuza University of Iasi
1.2 Faculty	Faculty of Economics and Business Administration
1.3 Department	Department of Accounting, Business Information Systems and Statistics
1.4 Field of study	Business Information Systems
1.5 Level	Master
1.6 Study programme/ Qualification	Software Development and Business Information Systems

2. Information about the course

2.1 Course name	Business Intelligence						
2.2 Course coordinator	Associate Professor Daniel HOMOCIANU , PhD Habil.						
2.3 Lab coordinator							
2.4 Year of study	I	2.5 Semester	I	2.6 Type of assessment	Ongoing assessment + Exam	2.7 Discipline status	C

* C – Compulsory / E - Elective

3. Total estimated time (hours allotted to didactic activity per semester)

3.1 Total number of hours per week	3	of which: 3.2 lecture	2	3.3 seminar/lab	1
3.4 Total number of hours in the curriculum	42	of which: 3.5 lecture	28	3.6 seminar/lab	14
Time distribution					hours
Study of the handbook, coursebook, bibliography and notes					35
Additional research in the library, online and on the field					15
Preparation of the practical project					35
Tutorials					15
Assessment					8
Other activities.....					
3.7 Total number of self-study hours	108				
3.9 Total number of hours per semester	150				
3.10 Number of credits	6				

4. Prerequisites (if applicable)

4.1 curriculum-based	• Databases (or similar)
4.2 competence-based	• Not applicable



**5. Conditions (if applicable)**

5.1. for lectures	<ul style="list-style-type: none">Internet access , Video projector, Physical / online attendance
5.2. for seminars/labs	<ul style="list-style-type: none">Physical attendance, Oracle Virtual Box & the virtual machine at: tinyurl.com/z47h6y2

6. Assimilated specific competences

Professional competences	C2 Competence to model, manage and analyse high volumes of business data C2.1 Mastering theoretical and technological knowledge and tools concerning business data modeling, query, processing, administration and analysis, including Big Data (3 credits) C4 Competence to integrate data, components and services in business systems and applications C4.1 Gaining detailed knowledge on all aspects of methodological and technological regarding the representation and persistence of data formats, the protocols and means of communication and integration of applications and services within distributed business information systems (1 credit) C6 Competence to manage and develop business processes using IT C6.2 Identification and orchestration of information processes in business using BPM (Business Process Management) tools (1 credit)
Transversal competences	CT1 – The ability to communicate and collaborate in teams of different professionals (0.5 credits) CT3 – Continuous improvement of specific skills and knowledge towards approaching information systems, development of new software technologies and management of information systems. (0.5 credits)

7. Discipline objectives (provided by the assimilated specific competences grid)

7.1 The general objective of the discipline	<ul style="list-style-type: none">To provide the knowledge of decision making technologies in order to efficiently implement them in organizations
7.2 Specific objectives	<ul style="list-style-type: none">Knowledge of decision types and decisional modelsKnowledge of the modules of a decision support applicationAbility to use BI tools and design, maintain and develop decision support applicationsBasic Knowledge of Data Warehouses and OLAP

8. Content

8.1 COURSE / LECTURE	Teaching methods	Observations
Introduction to Business Intelligence, Analytics, and Decision Support	PPT presentation, explanation, conversation, questioning.	2 lectures (4 h)
Foundations for Decision Making	PPT presentation, explanation, conversation, questioning.	2 lectures (4 h)
Descriptive Analytics	PPT presentation, explanation, conversation, questioning.	2 lectures (4 h)





Predictive Analytics	PPT presentation, code execution, explanation, conversation, questioning.	3 lectures (6 h)
Prescriptive Analytics	PPT presentation, query execution, explanation, conversation, questioning.	3 lectures (6 h)
BI - future directions	PPT presentation, explanation, conversation, questioning.	2 lectures (4 h)

Bibliography:

<http://portal.feaa.uaic.ro/Master/SDBIS/an1/zsem1/bi/Pages/default.aspx>

01-Airinei, D., Sisteme de asistare a deciziilor – note de curs, 2018

02-Airinei, D., Dospinescu, O., Huiban, A., Aplicatii practice cu sisteme OLAP si Depozite de date, Editura Sedcom Libris, Iasi, 2008

03-Filip, F.G., Zamfirescu, C., B., Ciurea, C., Computer-Supported Collaborative Decision-Making, Springer, 2017

04-Grossmann, W., Rinderle-Ma, S., Fundamentals of Business Intelligence, Springer, 2015

05-Sherman, R., Business Intelligence Guidebook. From Data Integration to Analytics, Elsevier, 2015

06-Nutt, P., C., Wilson, D., C., Handbook of Decision Making, Wiley, 2010

07-Loshin, D., Business Intelligence, The Savy Manager's Guide, Morgan Kaufmann, 2013

08-Sauter, V.L., Decision Support Systems for Business Intelligence (2nd Ed.), John Wiley & Sons, 2010

09-Power, D., J., DSS History

10-Sharda, R., Delen, D., Turban, E., BI and Analytics: Systems for Decision Support, Pearson, 2014

11-Homocianu, D., DSS in the context of knowledge society, UAIC Publishing, Iasi, 2009, ssrn.com/abstract=2384380 or sites.google.com/site/dss4ks/dwld/DSSCKS.pdf

12- Homocianu, D., Habilitation thesis: Technologies for supporting decision making, Iasi, 2019, tinyurl.com/y2gsptt4

13-<https://drive.google.com/drive/folders/0B6qmI5LYdWSeS3AwbmhILXZBdVU>

8. 2 LAB / SEMINAR	Teaching methods	Observations
8.2.1. Basic applications (apps). to support decision making: functions, solvers, macros	demonstration, design, questions	2 h
8.2.2. BI app. Prototype - connecting to different data and model sources and designing a dynamic and interactive interface module	script/code execution, questions, discussion	2 h
8.2.3. Evaluation for 8.2.2. – 13.33%	archives sent before the beginning of the lab 8.2.3. and evaluation feed-back	2 h
8.2.4. BI app. prototype: exports and report generation	script/code execution, questions, discussion	2 h
8.2.5. Evaluation for 8.2.4. – 13.33%	archives sent before the beginning of the lab 8.2.5. and evaluation feed-back	2 h





8.2.6. Introduction to Microsoft Power Pivot and /or Microsoft Power BI	demonstration, design, questions	2 h
8.2.7. Evaluation for 8.2.6. – 13.33%	archives sent before the beginning of the lab 8.2.7 and evaluation feed-back	2 h

Bibliography:

14-[Clark, D., Beginning Power BI with Excel 2013. Self-Service BI using Power Pivot, Power View, Power Query, and Power Map, Apress, 2014](#)

15-[Sheldon, B., et. al., Professional Visual Basic 2012 and .NET 4.5 Programming, Wiley & Sons, 2013](#)

16-[Sarka, D., et. al., Implementing a Data Warehouse with Microsoft SQL Server 2012.Training Kit, O'Reilly Media,2012](#)

17-[Powell, B., Mastering Microsoft Power BI, Expert techniques for effective data analytics and business intelligence, Packt, 2018](#)

18-[Mcpherson, B., Going GAS. From VBA to Google Apps Script, O'Reilly, 2016](#)

19-[Microsoft, Power BI MVP Book, 2019](#)

20-<https://drive.google.com/drive/folders/0B6qmI5LYdWSeM1ZXcm04VHJBc2M>

9. Corroboration of the discipline content with the expectations of epistemic community representatives, professional associations as well as of representative employers in the programme related field.

- The content of this discipline has been decided upon by taking into account both the curricula of some prestigious Western Universities and the demands of the economic environment provided by potential employers, either in the public or in the private IT companies.

10. Assessment

Type of activity	10.1 Assessment criteria	10.2 Assessment methods	10.3 Share of final grade
Practical ongoing evaluation (3 x project modules) regarding the development of components for a BI app.prototype	real-world application, complexity, validity and originality	Both apps' sources and presentations (video captures of apps' execution) sent before the beginning of certain labs. (see 8.2.3, 8.2.5 and 8.2.7) The archives should be electronically sent via https://wettransfer.com/ (NOT e-mail with attach) at: daniel.homocianu@uaic.ro	40% (3 * 13.33%)
Theoretical evaluation of presentations / reports / essays / articles	format, validity of sources, consistent pro-or-cons arguments, controversial theme and originality of comments and conclusions	Theoretical presentations (.ppt/.pptx/.pdf) delivered in real-time (presented and debated during lecture hours) or accompanied by audio&video narration (besides .ppt/.pptx/.pdf). The archives should be electronically sent via https://wettransfer.com/ (NOT e-mail with attach) at least a week before, at: daniel.homocianu@uaic.ro	20%
Theoretical exam based answers to questions	solid theoretical knowledge of BI applied in real-world scenarios and own application prototype / solution	Final theoretical evaluation starting from at least ten questions (survey)	40%



**10.6 Minimum performance standard**

- Design and implement a BI application prototype / use an existing solution, including:
 - documentation;
 - dynamic and interactive user interface at least with:
 - > Charts and grids and other controls triggering events changing the content of the first 2 (charts, etc.);
 - > At least 2 different data sources;
 - > At least 2 decision models used and corresponding code sequences/functions/methods to implement them;
 - > At least one component to dynamically generate BI-like reports and exports (spreadsheet / office document / portable document format / screen capture and carto-diagrams / representations on maps);
- **The average grade for those three modules of practical ongoing evaluation must be ≥ 5 ;** Each such individual score from those three above is:
 - ≥ 1 and ≤ 10 when presenting the homework in time (corresponding week / another week in advance);
 - ≥ 1 si ≤ 5 when exceeding the deadline (another week with delay);
- **The grade for the theoretical exam (survey) should be ≥ 5 .**
- **The final grade must be ≥ 5 .**

Date of completion

09/22/2021

Date of aproval within
the department

09/24/2021

Course and lab coordinator

Assoc. Prof. Daniel HOMOCIANU,
PhD Habil.

Head of the CIES Department

Professor Florin DUMITRIU, PhD

