

# INIR079NABB – Digital Technologies in Business

Fall Semester, Academic Year 2023/2024

<b>Course leader:</b>	Álmos Dinnyés PhD
<b>Department:</b>	Institute of Data Analytics and Information Systems Department of Information Systems
<b>Office hours:</b>	
<b>Availability:</b>	
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<b>Course type:</b>	Introductory elective, BSc
<b>Prerequisites:</b>	Business Essentials
<b>Credits:</b>	6
<b>Number of hours per semester</b>	48 hours per semester
<b>Time of lecture:</b>	
<b>seminar:</b>	

## **Aims and objectives and description of the course:**

Digital Technologies – namely Information Systems (IS) and Information Technologies (IT) – play a critical role in support of competitive business operations. The course aims at preparing students to develop working knowledge of digital technologies with a focus on their application in business settings.

The objective of the course is to make students understand what IT systems are most commonly used at companies, what digitalization for corporates mean, how can the business and IT process be harmonized.

## **Course description**

This course, on the one hand, will prepare students to develop a working knowledge of information systems to understand business opportunities created by digital technologies. On the other hand, students will learn how organizations leverage information systems and information technology to improve business processes and enhance related business strategies. The course will address fundamental information system concepts, current IT capabilities and trends, types of information system – including ERP, CRM, data management, decision making and business intelligence system – with the objective of preparing students to confidently use these technologies to make sound business decisions.

## **Detailed course content:**

- Introduction to Information Systems
- Business Process Management and Information Systems
- Information Systems within the Organization (ERP (as data source))
- Extending the Organization to Supply Chain (SCM)
- Extending the Organization to Customers (CRM)
- Data Management and Analysis (Databases vs. Data warehouses)
- Business Intelligence (Data visualization, Dashboards, Business Analytics etc.)
- E-business and E-commerce
- Acquiring Information Systems

<b>Knowledge</b>	<b>Skills</b>	<b>Attitude</b>	<b>Autonomy &amp; responsibility</b>
<ul style="list-style-type: none"> <li>• knowledge of business process management principles</li> <li>• knowledge of Enterprise Resource Planning, Customer Relationship Management, Decision Support and Business Analytics systems</li> <li>• knowledge of principles, procedures, business models and trends in digital business</li> <li>• knowledge of principles and procedures of information system management</li> </ul>	<ul style="list-style-type: none"> <li>• describing and assessing business processes and identifying inefficiencies and problems in these processes</li> <li>• understanding "how" and "why" digital technologies can help improve efficiency and effectiveness in business</li> <li>• using data and business analytics tools to make sound business decisions</li> <li>• understanding how information systems are acquired by business</li> </ul>	<ul style="list-style-type: none"> <li>• apply critical thinking in processing digital technology related business problems</li> <li>• being open to learn new digital technologies and their application for business purposes</li> </ul>	<ul style="list-style-type: none"> <li>• developing one's own ways of using technologies, applications, and application functions for problem-solving</li> <li>• preparing new solutions for business problems in a creative way with the help of digital technologies</li> <li>• handling data and databases entrusted to him/her responsibly and ethically.</li> </ul>

**Methodology to be used:**

Besides the theoretical lectures, case studies, classroom discussions, group assignments will be provided.

**Detailed class schedule, 1<sup>st</sup> – 14<sup>th</sup> week:**

<b><u>Date of class</u></b>	<b><u>Topics to be discussed, readings required for the class</u></b>
week 1	Business and Technologies
week 2	Business Process Management
week 3	Operational Planning and Control Systems - ERP
week 4	Operational Planning and Control Systems - Supply Chain Management Systems
week 5	Operational Planning and Control Systems - CRM
week 6	Midterm Exam Decision Support Systems
week 7	FALL BREAK
week 8	Business Intelligence I.
week 9	Business Intelligence II.
week 10	Data Culture
week 11	E-business and E-commerce
week 12	IT Strategic Planning and Acquisition
week 13	Ethical and Social Issues in Information Systems
week 14	Final Exam

**Assignments:**

- case solving (group work)
- project work (group work)
- information system application assignments (individual and group work)

**Exams:**

There will be two exams during the semester: midterm on week 6 and final on the last seminar.

### **Working in teams:**

The students have to work on the assignments in groups of 4-5. One of the team members has to upload the solutions onto the Moodle server before end of the seminar. Each team member that is present on the seminar will get the same grade. The ones that miss the seminar won't get any points for that assignment.

It is strongly recommended that all groups inform teaching staff before Week 10 if the group feels that the contributions of group members have been unequal. Adjustments to marks of individual group members to reflect their proportionate contribution cannot be considered after this point.

### **Assessment, grading:**

1. Written Exams (Max. 50%):
  - Midterm Exam: Max. 20%
  - Final Exam: Max. 30%
2. Class Assignments (Max. 50%):
  - 5 project work (on various topics)
  - Each project work equals max. 10%

**Class participation:** Not to be confused with attendance, class participation is the practice of engaging your professor and fellow students during presentations and discussions with thoughtful and timely contributions. If you miss classes it will have an impact on your participation points!

*Opinions vary, civility is constant.* You should feel free to question or disagree with other students; however, such disagreement must be based on the idea and not the person. Respect for your peers and professor is the sine qua non of great discussions and great learning experiences.

DO NOTE THAT EVERY POINT IS EARNED, NOT NEGOTIATED!

### **Plagiarism**

Any and all statements contained in any assignment or paper that are based upon ideas or words of another must be properly credited to the original author or source. Paraphrasing the ideas or words of another is acceptable so long as the original author or source is cited. DO NOT quote words or expressions from existing works verbatim without designating the passage as a quote and crediting the source. Any student who plagiarizes the work of any other person (author, professor, student, parent, friend, etc.) is committing academic dishonesty and misconduct. Any student caught committing plagiarism will automatically fail the course.

### **Compulsory readings:**

- R. Kelly Rainer, Brad Prince, Hugh J. Watson: Management Information Systems: Moving Business Forward, 4th Edition, EMEA Edition
- Kenneth C. Laudon, Jane P. Laudon: Management Information Systems: Managing the Digital Firm, 16th edition
- Eliyahu M. Goldratt: The Goal
- Robert C. Martin: The Clean Coder: A Code Of Conduct For Professional Programmers

**Grade Conversion Table for Programs and Courses taught in English**

<i>Percentage achieved</i>	<i>Hungarian Grade</i>	<i>ECTS Grade</i>	<i>International Grade</i>	<i>Explanation</i>
97-100	<b>5</b>	<b>A</b>	<b>A+</b>	<b>Excellent</b>
94-96	<b>5</b>	<b>A</b>	<b>A</b>	<b>Excellent</b>

90-93	5	A	A-	Excellent
87-89	5	B	B+	Excellent/Very good
84-86	4	C	B	Good
80-83	4	C	B-	Good
77-79	4	C	C+	Good
74-76	3	D	C	Satisfactory
70-73	3	D	C-	Satisfactory
67-69	3	D	D+	Satisfactory
64-66	2	D	D	Low pass/Sufficient
51-63	2	E	D-	Low pass/Sufficient
0-50	1	FX/F	F	Fail, 0 credit
	N		N	No grade received, 0 credit