Bachelor Syllabus

1224-Information Systems

7.5 **ECTS**

Academic Year 2024/25

Spring **Semester**

Paulo Faroleiro

With more than 30 years of IT experience, performed technical roles and IT management roles in small and large consulting organizations for 20 years. As Business Unit Director for 8 years, managed a Business Unit in IT Strategic Consultancy and Auditing, with a team of 50 members and an 8 year global budget of 20M€. Certified Auditor in Quality, IT Service Management, Information Security, IT Internal Control, and Innovation, performs periodic certification audits and training sessions on these subjects. Between 2012 and 2017 was Nova SBE CIO – Associate Dean, with the IT, e-Learning and Library departments. As Professor, was responsible for the IT Internal Control Module at the Information Systems Audit Master Degree in Faculdade de Engenharia da Universidade Católica Portuguesa, for its 5 editions, and was Invited lecturer in ISCTE and ISEG in Information Systems Management Master Degrees. With a BSc in Applied Maths, a MSc in Information and Enterprise Systems and a phd in Computer and Informatics Engineering, with research in IT Governance, IT Management and CyberSecurity, since 2012 is Assistant Professor of Information Systems and Project Management in Nova SBE.

Office Hours: tbd

paulo.faroleiro@novasbe.pt

Pre-requisite Course(s) N/A

COURSE UNIT AIMS. (Purpose of the course using broad, general terms)

The Information Systems Course aim is to provide a broad however detailed view about what is the IS/IT technology and organization in any small or large, national or global corporations, and how can technology and IS be used as a lever to promote the business in a global perspective.

Focused on those who will join large organizations but also on those entrepreneurs that want to start their own businesses and need a view on how the IS/IT can help them.

COURSE UNIT CONTENT. (Main topics covered in the course)

Learning objectives ((C#) the Laudon book topic) include a student's ability to understand:

1. **(C1)How are information systems transforming business and what is their relationship to globalization. Why are information systems so essential for running and managing a business today. What exactly is an information system and how does it work. What are its management, organization, technology components, and complementary assets. Why are complementary assets essential for ensuring that information systems provide genuine value for an organization. What are the academic disciplines used to study information systems. How each contribute to an understanding of information systems. What is a sociotechnical systems perspective.**
   Duration: 4 classes

2. **(C2)What are business processes and how they relate to information systems. How do systems serve the different management groups in a business. How do systems that link the enterprise improve organizational performance. Why systems for collaboration and teamwork are so important and what technologies do they use. What is the role of the information systems function in a business.**
   Duration: 3 classes

3. **(C9)How do enterprise systems help businesses achieve operational excellence. How do supply chain management systems coordinate planning, production, and logistics with suppliers. How do customer relationship management systems help firms achieve customer intimacy. What are the challenges posed by enterprise applications. How are enterprise applications taking advantage of new technologies.**
   Duration: 2 classes

4. **(C3)Which features of organizations do managers need to know about to build and use information systems successfully. What is the impact of information systems on organizations. How does Porter's competitive forces model help companies develop competitive strategies using information systems. How do the value chain and value web models help businesses identify opportunities for strategic information system applications. How do information systems help businesses use synergies, core competencies, and network-based strategies to achieve competitive advantage. What are the challenges posed by strategic information systems and how should they be addressed.**
   Duration: 4 classes

5. **(C4)What ethical, social, and political issues are raised by information systems. What specific principles for conduct can be used to guide ethical decisions. Why do contemporary information systems technology and the Internet pose challenges to the protection of individual privacy and intellectual property. How have information systems affected everyday life.**
   Duration: 3 classes

6. **(C8)Why are information systems vulnerable to destruction, error, and abuse. What is the business value of security and control. What are the components of an organizational framework for security and control. What are the most important tools and technologies for safeguarding information resources.**
   Duration: 3 classes

7. **(C10)What are the unique features of e-commerce, digital markets, and digital goods. What are the principal e-commerce business and revenue models. How has e-commerce transformed marketing. How has e-commerce affected business-to-business transactions. What is the role of m-commerce in business, and what are the most important m-commerce applications. What issues must be addressed when building an e-commerce Web site.**
   Duration: 2 classes

8. **(C6)What are the problems of managing data resources in a traditional file environment and how are they solved by a database management system. What are the major capabilities of database management systems (DBMS) and why is a relational DBMS so powerful. What are some important principles of database design. What are the principal tools and technologies for accessing information from databases to improve business performance and decision making. Why are information policy, data administration, and data quality assurance essential for managing the firm's data resources.**
   Duration: 2 classes

Extra Topics

9. **(C5)What is IT infrastructure and what are its components. What are the stages and technology drivers of IT infrastructure evolution. What are the current trends in computer hardware platforms. What are the current trends in software platforms. What are the challenges of managing IT infrastructure and management solutions.**
10. **(C7)What are the principal components of telecommunications networks and key networking technologies. What are the different types of networks. How do the Internet and Internet technology work, and how do they support communication and e-business. What are the principal technologies and standards for wireless networking, communication, and Internet access. Why are radio frequency identification (RFID) and wireless sensor networks valuable for business.**

LEARNING OBJECTIVES. Upon completion of this course, students should be able to:

A. Knowledge and Understanding
   1. **Understanding IS that Support Organizational Performance**
   2. **Data and Network Infrastructures**
   3. **Web, Wireless and Social Media Strategies**
   4. **Operational and Enterprise Systems and Processes**

5. **Managing IT, Business Processes and Social/Ecology responsibility**

B. Subject-Specific Skills

This is not a class on technology! It is a class on information, processes, and models used by firms to produce goods and services and to effectively manage accounting, finance, human resources, strategy, supply chains/inventory, and other activities in a business.

C. General Skills

These areas of emphasis will provide the foundation for the course as is explored a series of information systems topics such as e-Commerce, Social Media, Operational and Control Systems, Enterprise Resource Planning (ERP), Business Intelligence, Business Processes and ways to Manage IT and perform System Development

DEMONSTRATION OF THE COHERENCE OF THE SYLLABUS WITH COURSE UNIT AIMS

Provided the different areas of IS/IT knowledge and the supporting concepts of Business Processes, Project Management, Security, IT Management and Governance, the student is able to understand how can the IS/IT be used to provide a strategic advantage to the business, promote differentiation, make business processes more efficient and effective, and be able to perform a socially responsible IS/IT management approach.

TEACHING AND LEARNING METHODS.

Theoretical Lectures and Practical classes with IS/IT case discussion and student investigation.

Note about Assessment.
The Final Exam is mandatory and must cover the entire span of the course. Its weight in the final grade can be between 30 to 70%. The remainder of the evaluation can consist of class participation, midterm exams, in class tests, etc. Overall, written in class assessment (final exam, midterm) must have a weight of at least 50%.

In-Class Participation

Objective

In Class participation will be used to make sure that students are keeping up with the course content and to evaluate their improvement. All students participation will be accounted.

Participation grade

It will account for your final grade. More specifically, 5% in theoretical classes and 5% in practical classes.

Scoring system

<u>Theoretical classes</u> (Interactive Sessions) – Theoretical classes will have cases to be discussed on every topic. You will have to discuss the case, video or text previously uploaded that you will need to read and prepare. This discussion means answering specific questions on Moodle. These interactive sessions are graded by the number of valid answers over the global set of

interactive sessions plus the optional interactive sessions (the final grade can be higher than 100%). It's advisable you use Gen AI to answer the proposed questions. Answers will be evaluated by Gen AI as well, following a predetermined set of requirements based on the learning objectives (a final review will be made by a human evaluator).

Practical classes (Topic presentation) – Every topic have a practical presentation, prepared and presented in group. According to an agreed calendar, you will present and discuss in class the presentation that you prepared.

All students are invited to participate in the discussion in order to count for the continual evaluation. Unjustified absence to any case discussion will mean a zero grade for that class's participation. Class participation grades will be based on your input and positive contribution to the discussion. Please use a name tag to turn grading easier during class discussion.

Project

The goal of the project is to provide in-depth exposure to a specific information systems topic.
The project will expose the student to all of the steps of an information systems process and its components. More detailed information will be provided later in the semester.

Final Exam

The final exam will cover all the material discussed throughout the semester. An emphasis will be placed on material explained in lectures. More detailed information and sample questions will be provided during the final weeks of the course.
The final exam formats might differ during the normal and special exam seasons.
The final exam will count for 50% of the grade. There will be a minimum grade of 42.5%.

Regular Exam Period

- **In-class participation**: **10%** of final grade (5% in Theoretical Classes, 5% in Practical Classes)
- **Practical Presentations**: 10**%**
- **Project**: **30%** of final grade (group)
- **Final Exam**: **50%** of final grade (individual)

Students who attend the Regular Exam will have to consider the Continuous Evaluation Grade.
In this case a student approves if has a final grade (weighted average) higher or equal to 50%, with a **minimum grade of 42.5% in the exam**.

- $\boldsymbol{Exam\ Grade} \geq \mathbf{42.5}\%$

- $\boldsymbol{Final\ Grade} = (\boldsymbol{Exam\ Grade}) \times \mathbf{50\%} + (\boldsymbol{Project\ Grade}) \times \mathbf{30\%} + (\boldsymbol{Practical\ Presentations}) \times \mathbf{10\%} + (\boldsymbol{in-Class\ Participation}) \times \mathbf{10\%}$

- $\boldsymbol{Exam\ Grade} < \mathbf{42.5\%}$
  - $\boldsymbol{Final\ Grade} = \boldsymbol{Exam\ Grade}$

A student approves if:

1. Has an Exam Grade higher or equal to $\mathbf{42.5\%}$.
2. Has a final grade higher or equal to $\mathbf{50\%}$.

Resit Exam Period

- Students who attend the Resit Exam will have considered only the 100% of the Resit Exam Grade.
- In this case a student approves if has a final grade higher or equal to 50%.

Grade Improvement in Regular Period

- Students who attend the Regular Exam for Grade Improvement will have considered the Exam for 100%.
- In this case a student approves if has a final grade higher or equal to 50%.

Grade Improvement in Resit Period

- Students who attend the Resit Exam for Grade Improvement will have considered the Exam for 100%.
- In this case a student approves if has a final grade higher or equal to 50%.

BIBLIOGRAPHY.

Kenneth C. Laudon, Jane P. Laudon, Management Information Systems, 16th Edition, Pearson, 2020 – Global Edition

Kenneth C. Laudon, Jane P. Laudon, Management Information Systems, 17th Edition, Pearson, 2022 – Global Edition

RESOURCES.

Articles and other required materials will also be distributed using Moodle class web site. Moodle platform being used to support content delivery and to perform continuous evaluation using quizzes based on IS/IT cases