

IE-TECHNOLOGY TRENDS TODAY

ASIGNATURAS DE VARIOS PROGRAMAS QUE CONVERGEN EN UNA SOLA

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Degree course: FIRST

Semester: 2^o

Category: COMPULSORY

Number of credits: 3.0

Language: English

PREREQUISITES

SUBJECT DESCRIPTION

Today, we are immersed in a technological revolution which is transforming our world at an unimaginable pace. Technology has never been more present in our daily life and this process is expected to continue exponentially growing.

A diverse variety of technologies are just beginning to break out of an emerging state and stand to have substantial disruptive potential across a wide range of industries and sectors.

Topics and concepts such as: Nanotechnology, IoT, Smart cities, Cognitive computing, Digital transformation and digital business, Biomedicine, Industry 4.0, AI (Artificial Intelligence), Robotics, Fintech, drones, augmented reality, machine learning, Blockchain, connected car...have become or are starting to become part of everyday life.

Technology is also a driving force playing a pervasive role, having tremendous impact in today's business environment and bringing new business opportunities, as well as solving big problems.

As technological change accelerates and adoption rates soar, major breakthroughs are profoundly altering the business landscape. The pace of technology change, innovation and business adoption is being stunning.

Over the next years, we are going to see technology shifts and changes at a scale never seen before, and the exponential growth of technology will be a prime enabler creating disruptive innovations and reshaping the future of our planet.

Thus, companies and entrepreneurs must examine their business impacts and adjust business models and operations appropriately or risk losing competitive advantage to those who do. These are trends that business world cannot afford to ignore.

OBJECTIVES AND SKILLS

As technology continues to change the way organizations do business, knowledge of technology is becoming increasingly important. Technology Trends Today shows students how organizations and individuals use technology to solve problems on a daily basis and how to assume that technological concepts, technology itself, and systems will change over the next years to help students anticipate changes in technology and think about how those affect business.

Students with sufficient insight in technology issues will enjoy a competitive advantage compare to others who do not receive this training. Thus, this course is intended to provide sufficient insight into technology issues to help you better understand the current and potential environment.

Many traditional sectors are benefitting from adopting digital technologies at the same level as many industries have. The technological innovation is improving the quality and reach of many services.

The embrace of digital technologies by different sectors is transforming companies into 21st-century business and, thus, it is a trend of immense importance to business and in our daily life.

Every year brings important new technology to organizations and this course reflects these trends; providing the latest technology content available, keeping you up to date and knowledgeable on how to apply emerging technologies to better achieve organizations' strategies.

Some well-known examples include the emergence of cloud computing, the growth of a mobile digital business platform, the implementation of analytics and security and the use of social media to achieve business objectives. Most of these changes conducted by these driving forces have occurred in the last few years. These major innovations are enabling entrepreneurs and innovative traditional firms to create new products and services, develop new business models, and transform the day-to-day conduct of business.

As future managers, most of you will work for firms that are intensively using information systems and making large investments in information technology.

The course will be divided into two different sections:

1. Firstly, you will be provided with technology fundamentals
2. Secondly, you will explore and discover how technology is being implemented in many different ways to achieve a broad variety of goals.

In a nutshell, at the end of this course you should be able to:

- Have a solid understanding of the role of technologies including its history, application, potential, benefits and costs in our organizations and society.
- Make informed decisions regarding the use of information technologies.
- Safely utilize information technologies to meet organizational goals.
- Create a business model for a company from a technology approach.

METHODOLOGY

Teaching methodology	Weighting	Estimated time a student should dedicate to prepare for and participate in
Lectures	25.34 %	19 hours
Discussions	8.0 %	6 hours
Exercises	26.67 %	20 hours
Group work	40.0 %	30 hours
Other individual studying	0.0 %	0 hours
TOTAL	100.0 %	75 hours

PROGRAM

CONTENT

The course is organized into four sections:

1. Introduction
2. Information Technologies fundamentals
3. Impact of Information Systems in Social Management
4. Innovation, disruptive change and convergence

SESSION 1

Introduction to Technology

SESSION 2

Next steps in Hardware, Networks and Communications

SESSION 3

Software and Databases Trends

Basic components of Information Systems: Software

SESSION 4

Towards full integration of Information Systems

SESSION 5

Mobile, Cloud and On-demand provisioning models

SESSION 6

Privacy and Security challenges in Information Systems

SESSION 7

Evolution of Social Media and Web 3.0

SESSION 8

e-Commerce Trends and Digital Marketing

SESSION 9

Innovation, disruptive change and convergence

SESSION 10

Towards a new ecosystem: Big Data, IoT and Industry 4.0

SESSION 11

From Artificial Intelligence to Cognitive Computing

SESSION 12

Other Technology Trends

SESSION 13

Final project: final presentation

SESSION 14

Final project: final presentation

SESSION 15

Final test/quiz

BIBLIOGRAPHY

Each session will provide specific links to online resources (websites/blogs/whitepapers) and some articles on the basics of key technology trends.

Additional materials may also be distributed and referenced as the course progresses, as long as they are ordered in advance.

The followings books are recommended for this course:

RECOMMENDED

Title: Management Information Systems
Author: Kenneth C. Laudon, Jane P. Laudon
Publisher / Edition / Year: Prentice Hall / 15th / 2017
ISBN / ISSN: ISBN13: 978-0134639710

RECOMMENDED

Title: Management Information Systems
Author: James O'Brien, George Marakas
Publisher / Edition / Year: McGraw-Hill/Irwin/ 10th / 2010
ISBN / ISSN: ISBN-10: 9780073376813 | ISBN-13: 978-0073376813

RECOMMENDED

Title: The second machine age: Work, progress and prosperity in a time of brilliant technologies
Author: Erik Brynjolfsson, Andrew McAfee
Publisher / Edition / Year: W. W. Norton & Company / 1st / 2016
ISBN / ISSN: ISBN-10: 0393350649 ISBN-13: 978-0393350647

RECOMMENDED

Title: Management Innovation: Integrating Technological, Market and Organizational Change.
Author: Joe Tidd, John Bessant
Publisher / Edition / Year: Wiley/ 5th / 2013
ISBN / ISSN: ISBN-10: 111836063X | ISBN-13: 978-1118360637

RECOMMENDED

Title: Information Systems Today: Managing in the digital World
Author: Joseph Valacich, University of Arizona, Christoph Schneider, City University of Hong Kong
Publisher / Edition / Year: Pearson/ 7th / 2016
ISBN / ISSN: ISBN-1 ISBN13: 9780133940305

RECOMMENDED

Title: The inevitable
Author: Kevin Kelly
Publisher / Edition / Year: Viking / 2016
ISBN / ISSN: ISBN-10: 0525428089

RECOMMENDED

Title: Business Models for the Social Mobile Cloud: Transform Your Business Using Social Media, Mobile Internet, and Cloud Computing
Author: Ted Shelton
Publisher / Edition / Year: Wiley, John & Sons, Incorporated/ 1st / 2013
ISBN / ISSN: ISBN-13: 9781118369944

RECOMMENDED

Title: Experiencing MIS
Author: David M. Kroenke, Randall J. Boyle, Weber State University
Publisher / Edition / Year: Pearson/ 7th / 2017
ISBN / ISSN: ISBN13: 9780134319063

RECOMMENDED

Title: Using MIS
Author: David M. Kroenke, Randall J. Boyle, Weber State University
Publisher / Edition / Year: Pearson/ 9th / 2017
ISBN / ISSN: ISBN13: 9780134106786

RECOMMENDED

Title: The information
Author: James Gleick
Publisher / Edition / Year: Vintage/ 2nd / 2012
ISBN / ISSN: ISBN-10: 1400096235 / ISBN-13: 978-1400096237

Readings

Powerpoint slides for each session will be distributed via the platform Online Campus.

Additional material

Consider the cases, articles, documentation and links, just a starting point. Feel free to update, and add additional documentation in the light of recent news.

EVALUATION CRITERIA

This course requires students to attend, at least, to the 70 % of the sessions. You will be asked to make written and verbal presentations and take an active role in class discussions. The evaluation is based on the following criteria:

Criteria	Percentage	Comments
Assignments	30 %	
Class Participation	10 %	
Tests or Quizzes	30 %	
Group Presentation	30 %	

A. Class participation

Students must attend, at least, 70% of all classes and participate in class discussions. The rating of the class participation is based on two aspects, the presence and contributions to class discussions. Contributions on class discussions will focus on quality, not quantity of the contribution, so that students who participate often do not necessarily receive a better rating than those who participate less frequently. Therefore, students are encouraged to start contributing to the discussions since the beginning of the course.

For this course, consider the cases and the documentation just a starting point. Feel free to update, add additional data or analysis to the discussion, or ask questions in the light of recent news.

B. GROUP CASE AND WRITE-UPS

For each individual write-up, there is an upper limit of three pages of text (assuming 11-point font size, Times New Roman, double spacing) plus no more than one page of exhibits.

A hard copy of the document must be delivered to the professor in class. You also have to upload a soft copy of the case write-up to the professor via Campus Online.

Make sure the case write-up is easy to read. Consider using bullets, headings, etc., to make the case write-up easy to follow.

The objective of this process is to give you practice writing concise executive summaries – something that would make the reader believe that you have done a thorough analysis supporting your recommendations. This is the type of briefing that must typically be prepared for upper management – before they provide the resources for a more detailed investigation.

Good case briefs are concise, but also provide a fact-based rationale for your recommendations and implementation plan. The rationale should reflect a good understanding of the important issues of the case and may integrate previous material from the class or your experience. You might also note factors that argue against your recommendation, and how your implementation plan might minimize the impact of these factors.

C. FINAL GROUP PRESENTATION AND REPORT

You are also expected to complete a final project with your group and present it in written form. The project will give you the opportunity to reflect on what you have learnt in class and apply it to some practical problems. More details of the project will be provided by the start of the course.

D. TEST

Tests will focus on the topics explained throughout the course. Detailed instructions will be provided during the course.

RETAKE POLICY

- Each student has 4 chances to pass any given course distributed in two consecutive academic years (regular period and July period).
- Students who do not comply with the 70% attendance rule will lose their 1st and 2nd chance, and go directly to the 3rd one (they will need to enrol again in this course next academic year).
- Grading for retakes will be subject to the following rules:

Students failing the course in the first regular period will have to do a retake in July (except those not complying with the attendance rules, which are banned from this possibility).

Dates and location of the July retakes will be posted in advance and will not be changed. Please take this into consideration when planning your summer.

o The July retakes will consist on a comprehensive exam. The grade will depend only on the performance in this exam; continuous evaluation over the semester will not be taken into account. This exam will be designed bearing in mind that the passing grade is 5 and the maximum grade that can be attained is 8.

o The non-July retakes (this happens in the ordinary period: students in their third attempt) will consist on special assignment or presentation. The details will be provided in advance during the course.

- o The maximum grade that a student may obtain in any type of retake will be 8 out of 10.

PROFESSOR BIO

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Dr. Robert Polding holds a PhD and MSc in Information Systems from The University of Sheffield and a BSc (Hons) in Media Science from Sheffield Hallam University. He has taken part in research projects involving augmented reality, e-commerce, web applications, RFID and database technologies. He has lectured on database design, information systems modelling, project management, international business administration and big data.

OTHER INFORMATION

CODE OF CONDUCT IN CLASS

1. **Be on time:** : Students arriving more than 5 minutes late will be marked as “Absent”.

Only students that notify in advance in writing that they will be late for a specific session may be granted an exception (at the discretion of the professor).

2. **If applicable, bring your name card and strictly follow the seating chart.** It helps faculty members and fellow students learn your names.

3. **Do not leave the room during the lecture:** Students are not allowed to leave the room during lectures. If a student leaves the room during lectures, he/she will not be allowed to re-enter and, therefore, will be marked as “Absent”.

Only students that notify that they have a special reason to leave the session early will be granted an exception (at the discretion of the professor).

4. **Do not engage in side conversation.** As a sign of respect toward the person presenting the lecture (the teacher as well as fellow students), side conversations are not allowed. If you have a question, raise your hand and ask it. If you do not want to ask it during the lecture, feel free to approach your teacher after class.

If a student is disrupting the flow of the lecture, he/she will be asked to leave the classroom and, consequently, will be marked as “Absent”.

5. **Use your laptop for course-related purposes only.** The use of laptops during lectures must be authorized by the professor. The use of Social Media or accessing any type of content not related to the lecture is penalized. The student will be asked to leave the room and, consequently, will be marked as “Absent”.

6. **No cellular phones:** IE University implements a “Phone-free Classroom” policy and, therefore, the use of phones, tablets, etc. is forbidden inside the classroom. Failing to abide by this rule entails expulsion from the room and will be counted as one absence.

7. **Escalation policy: 1/3/5.** Items 4, 5, and 6 above entail expulsion from the classroom and the consequent marking of the student as “Absent.” IE University implements an “escalation policy”: The first time a student is asked to leave the room for disciplinary reasons (as per items 4, 5, and 6 above), the student will incur one absence, the second time it will count as three absences, and from the third time onward, any expulsion from the classroom due to disciplinary issues will entail 5 absences.