

# APPENDIX

## Updated Course Syllabus

<b>Course Code and Name</b>	<b>Added Prerequisite (s) Code and Name</b>
MIS-435 Business Intelligence	MIS-302 Database Management Systems
MIS-470 Business AR/VR	COMP-111 Programming I, COMP-113 Programming II
MIS-256 Web Based Applications Development	MIS-151 Business Software Applications



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MIS-435	Business Intelligence	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
MIS-302	Management	Fall/Spring/Summer
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Computer Science	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1st Cycle	Dr. Dmitry Apraksin	3 <sup>rd</sup> or 4 <sup>th</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face-to-Face	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Introduce the concept of business intelligence.
- Discuss the various methods that business intelligence can aid in effective decision-making.
- Demonstrate ways to create business intelligence.
- Study the database structures to serve as the source of business intelligence.
- Introduce the fundamental concepts necessary for the design, implementation, and delivery of business intelligence.
- Explain the basics of business intelligence such as multi-dimensional modeling, data warehousing, data-mart structures, online analytical processing structures, ETL processes, cube concepts and definitions, multidimensional expression language queries and reporting.
- Explain the importance of delivering business intelligence to decision-makers in a timely manner.

### Learning Outcomes:

After completion of the course students are expected to be able to:

- Explain the importance of business intelligence towards effective decision-making and identify various business intelligence methods.
- Identify and discuss business intelligence issues including multi-dimensional modeling, data warehousing, data-mart structures, online analytical processing structures, ETL processes, cube concepts and definitions, multidimensional expression language queries and reporting.

- Follow the methodology and apply techniques for the design, implementation, and delivery of business intelligence.

**Course Content:**

1. Basic Concepts and Architecture of Business Intelligence Systems.
2. The Fundamentals of Business Intelligence:
  - a) Database Systems
  - b) Basic Concepts and Architecture
  - c) OLTP Systems
  - d) Entity Relationship Model
  - e) Relational Data Model
  - f) SQL Query Language
3. OLTP Systems vs. Data Warehousing
4. Dimensional Modeling
5. Designing Data-Marts
6. Creating Data-Marts
7. Populating Data-Marts
8. Cube Building
9. Analysis of the Requirements of the Final Project
10. MDX Scripting and Querying
11. Reporting

**Learning Activities and Teaching Methods:**

Lectures, case studies, laboratories

**Assessment Methods:**

Attendance and Participation, Tests/Quizzes/Projects, Mid-Term, Final Exam

**Required Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Delivering Business Intelligence with Microsoft SQL Server 2016 6/E	B. Larson	McGraw Hill / Osborne	2017	978-1259641480

**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Introducing Microsoft® SQL Server 2016	R.Mistry & S. Misner	Microsoft Press	2016	978-1-5043-0193-5
Fundamentals of Database Systems 6th edition	R. Elmasri & S.Navathe	Addison Wesley	2011	978-0-13608620-8



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MIS-302	Database Management Systems	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
Junior Standing	Computer Science	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Computer Science	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr. Vasso Stylianou	3 <sup>rd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face to Face	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Examine databases, database management systems and their role in the organization.
- Follow historically the development of database management systems until present time.
- Analyze data models and data modeling techniques.
- Cover relational database design by converting a conceptual data model to a database schema.
- Explain normalization and use it to design normalized relational databases.
- Cover Structured Query Language's (SQL), data definition (DDL), data manipulation (DML), and data control (DCL) components.
- Introduce data and database administration functions.
- Introduce on-line transaction processing (OLTP) and its role in the business environment.
- Introduce business intelligence to include on-line analytic processing (OLAP), data warehousing, and data mining.

### Learning Outcomes:

After completion of the course students are expected to be able to:

1. Explain the role of databases and database management systems in managing organizational data and information.
2. Follow the historical development of database management systems and logical data models.

3. See the role of information requirements specification processes in the broader systems analysis and design context.
4. Distinguish between the basic approaches to data modeling techniques (object-oriented data modeling, semantic data modeling, etc.).
5. Use at least one conceptual data modeling technique (such as entity-relationship modeling) to capture the information requirements for an enterprise domain.
6. Design high-quality relational databases.
7. Explain the purpose and principles of normalizing a relational database structure and design a normalized relational database.
8. Implement a relational database design using an industrial database management system, including the principles of data type selection and indexing.
9. Use the data definition, data manipulation, and data control language components of SQL in the context of one widely use implementation of the language.
10. Perform simple database administration tasks.
11. Understand the concept of database transaction and apply it appropriately to an application context.
12. Understand the role of databases and database management systems in the context of enterprise systems.
13. Understand the difference between on-line transaction processing (OLTP) and on-line analytic processing (OLAP), and the relationship between these concepts and business intelligence, data warehousing and data mining.

### Course Content:

- 1) Basic File Processing Concepts
- 2) Database Approach
- 3) Types of Database Management Systems
- 4) Conceptual Data Model
  - a) Entity-relationship model
  - b) Object-oriented data model
  - c) Specific modeling grammars
  - d) Semantic data modeling
- 5) Logical Data Model
  - a) Hierarchical data model
  - b) Network data model
  - c) Relational data model
    - Relations and relational structures
    - Relational database design
      - Mapping conceptual schema to a relational schema
      - Normalization
      - Anomalies

- 6) Physical Data Model
  - a) Indexing
  - b) Data types
- 7) Structured Query Language (SQL): DDL, DML, and DCL
- 8) Data and Database Administration
- 9) Data Views
  - a) Virtual views (declaring views, query views, etc.)
  - b) Modifying views (Triggers)
- 10) Transaction Processing
- 11) Business intelligence
  - a) On-line analytic processing
  - b) Data warehousing
  - c) Data mining

**Learning Activities and Teaching Methods:**

Lectures, Lab Sessions, CASE tools demonstrations, Exercises.

**Assessment Methods:**

Final Exam, Midterm Exam, Coursework/Project

**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Database Processing; Fundamentals, Design, and Implementation, 16 <sup>th</sup> Ed.	D. M. Kroenke, D. J. Auer, S. L. Vandenberg	Pearson	2021	9780136931577

**Recommended Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
Beginning Database Design Solutions	S. Rod	Wiley Publ. ProQuest ebrary	2009	9780470440513

<https://ebookcentral.proquest.com/lib/nicosia/detail.action?docID=427853>

Database Modeling and Design, 5 <sup>th</sup> Ed.	T.J. Teorey, S.S. Lightstone, T. Nadeam, H.V. Jagadish	Morgan Kaufmann and Elsevier (Science Direct Platform)	2011	978-0123820204
<a href="https://ebookcentral.proquest.com/lib/nicosia/detail.action?docID=667713">https://ebookcentral.proquest.com/lib/nicosia/detail.action?docID=667713</a>				
Database Modeling with Microsoft Visio	T. Halpin, K. Evans, P. Hallock, B. Maclean	Morgan Kaufmann and Elsevier (Science Direct Platform)	2003	978-1558609198
<a href="http://search.ebscohost.com/login.aspx?direct=true&amp;AuthType=ip,sso&amp;db=nlebk&amp;AN=195165&amp;site=ehost-live&amp;custid=s1098328">http://search.ebscohost.com/login.aspx?direct=true&amp;AuthType=ip,sso&amp;db=nlebk&amp;AN=195165&amp;site=ehost-live&amp;custid=s1098328</a>				
Fundamentals of Database Systems, 7 <sup>th</sup> Ed.	R. Elmasri, S. Navathe	Addison-Wesley	2017	978-0133970777





## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MIS-470	Business AR/VR	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
COMP-111, COMP-113	Management	Fall, Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	MIS	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr. Fotis Liarokapis	3 <sup>rd</sup> and 4 <sup>th</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Co-requisites</b>
Face-to-Face	N/A	None

### Objectives of the Course

The main objectives of the course to:

- Introduce Virtual and Augmented concepts and theories.
- Explore all major aspects of Augmented and Virtual Reality such as the underlying hardware and software technologies.
- Provide a broad understanding of the most significant application domains.
- Explore fundamental concepts of consuming content using Virtual and Augmented Reality technologies for a business project.
- Provide a broad understanding on how to create content in Virtual and Augmented Reality technologies.
- Discuss AR/VR technology approaches to business applications and the impact on consumers.

### Learning Outcomes

After completion of the course students are expected to be able to:

- Demonstrate an understanding of the main mathematical concepts, hardware and software technologies used in Virtual and Augmented Reality.
- Evaluate different approaches, methodologies and tools focused on Virtual and Augmented Reality.
- Propose Virtual and Augmented Reality interfaces for both indoor and outdoor environments.
- Design multimodal Augmented and Virtual Reality interfaces for business application domains.

## Course Contents

### **Section I**

- Introduction to Virtual Environments
- Introduction to Augmented Reality
- Virtual and Augmented Reality Software

### **Section II**

- Virtual and Augmented Reality Displays
- Designing Virtual and Augmented Reality Interfaces
- Wearable Virtual and Augmented Reality

### **Section III**

- Virtual and Augmented Reality Tracking
- Augmented Reality Registration and Calibration

### **Section IV**

- Virtual and Augmented Reality Interaction
- Brain Computer Interaction in Virtual and Augmented Reality

### **Section V**

- Collaborative Virtual and Augmented Reality
- Mobile Virtual Environments

### **Section VI**

- Evaluating Virtual and Augmented Reality Interfaces
- Visual Perception for Virtual and Augmented Reality

### **Section VII**

- Application Domains (e.g. business, marketing, archaeology, navigation, education, etc).
- Future of Virtual and Augmented Reality

## Learning Activities and Teaching Methods

Laboratorial work, Faculty Lectures and Guest-Lectures Seminars, Directed and Background Reading Case-studies, In-class Exercises, Student-led Presentations

## Assessment Methods

Assignments, Final Project Presentation

## Recommended Textbooks / Reading

Title	Author(s)	Publisher	Year	ISBN
Virtual Reality Systems for Business	Robert J. Thierauf	Praeger	2017	13: 978-0899309460
Augmented Reality and Virtual Reality Empowering Human, Place and Business	Jung, Timothy, tom Dieck, Mandy (Eds.)	Springer	2018	978-3-319-64027-3
A Survey of Augmented Reality, Foundations and Trends in Human-Computer Interaction,	Billinghurst, M., Clark, A. Lee, G.	Now Publishers Inc	2015	978-1601989208
Understanding Virtual Reality: Interface, Application, and Design	William R. Sherman and Alan B. Craig	The Morgan Kaufmann Series in Computer Graphics	2018	978-0128009659

### Suggested Online Sources:

Slide share: Lecture 8 Introduction to Augmented Reality

<https://www.slideshare.net/marknb00/lecture-8-introduction-to-augmented-reality>

The Future of Virtual Reality and Business

<https://www.usdigitalpartners.com/future-virtual-reality-business/>

15+ books to help you design amazing virtual and augmented reality experiences

<https://haptic.al/virtual-augmented-reality-books-2016-64b614ac8582>

What is mixed reality?

<https://docs.microsoft.com/en-us/windows/mixed-reality/mixed-reality>



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
COMP-111	Programming Principles I	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
None	Computer Science	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Computer Science	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Dr Andreas Savva	1 <sup>st</sup> , 2 <sup>nd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face to Face	N/A	COMP-112

### Course Objectives:

The main objectives of the course are to:

- Introduce students to structured programming by means of the syntax and semantics of a structured high-level programming language.
- Provide students a good working knowledge of a programming language. This includes programming constructs such as expressions, selection statements, loops, functions and arrays.
- Provide practical experience in problem solving, coding, debugging, and testing.
- Guide the student in order to develop good programming practices.
- Obtain a foundation that will allow the student to pursue more advanced programming topics.

### Learning Outcomes:

After completion of the course students are expected to be able to:

1. Deal with the practicalities of writing a computer program.
2. Think and plan in a logical manner.
3. Apply a structured approach to problem solving.
4. Analyze and explain the behavior of simple programs involving the fundamental programming constructs.
5. Modify and expand short programs that use standard conditional and iterative controls structures and functions.

6. Design, implement, test and debug a program that uses each of the following fundamental programming constructs: Basic computation, Simple I/O, Standard conditional and iterative structures, Definition of functions.
7. Choose appropriate conditional and iteration constructs for a given programming task.
8. Apply the techniques of structured (functional) decomposition to break a program into smaller pieces.
9. Describe the mechanics of parameter passing (value and reference) and write programs with actual and formal parameters.

**Course Content:**

1. Program design fundamentals
  - a. Problem solving
  - b. Flow charts
  - c. Program structure and basic programming concepts
2. Primitive data types and declarations
  - a. Input / Output
  - b. Constants, Variables, Numbers
  - c. Expressions, Arithmetic Statements, Standard functions
  - d. Formatted output
3. Decision statements
  - a. Boolean expressions
  - b. Relational operators
  - c. Decision Statements
4. Repetition statements
  - a. Pre-test loops
  - b. Post-test loops
5. Functions and scope rules
  - a. Parameter passing to functions (value and reference)
  - b. Function returning values
  - c. Scope and life-time of variables

**Learning Activities and Teaching Methods:**

Lectures, In-Class Exercises, Computer Lab exercises.

**Assessment Methods:**

Programming Assignments & Homework, Mid-Term Examination, Final Examination

**Required Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Introduction to Programming with C++, 3 <sup>rd</sup> Ed.	Daniel Y. Liang	Pearson Education	2014	978-0-273-79324-3

**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Beginning Programming with C++ For Dummies	Stephen R. Davis	Wiley	2010	978-0-470-61797-7
C++ Programming for the Absolute Beginner	Lee Mark, Henkemans Dirk	Course Technology	2009	978-1598638752



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
COMP-113	Programming Principles II	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
COMP-111	Computer Science	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	Computer Science	English, Greek
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Prof. Athena Stassopoulou	1 <sup>st</sup> , 2 <sup>nd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face to Face	N/A	COMP-114

### Course Objectives:

The main objectives of the course are to:

- Build on the knowledge already acquired in Programming I, by focusing on the more advanced concepts of procedural programming.
- Enable the students to develop algorithmic thinking and problem solving.
- Introduce dynamic memory allocation.
- Provide practical experience in manipulating data strings, arrays, pointers and structures.
- Provide the fundamentals of recursion.
- Introduce students to I/O file stream and data files.
- Introduce Object-Oriented Programming.

### Learning Outcomes:

After completion of the course students are expected to be able to:

1. Use built-in data structures to organize and process information.
2. Develop algorithms and choose suitable data structures to produce solutions for complex problems using procedural programming.
3. Develop working programs using the more advanced concepts such as pointers and arrays of structures.
4. Develop programs using dynamic memory allocation.
5. Describe and use recursion.
6. Develop programs that use I/O file streams and data files.

7. Apply the fundamentals of Object-Oriented Programming.
8. Develop simple object-oriented programs.
9. Develop applications consisting of multiple source files.

**Course Content:**

1. Revision (Loops and Functions).
2. Arrays (one dimensional, two dimensional), C-Strings.
3. Addresses and Pointers. Dynamic memory allocation, array names as pointers, pointer arithmetic, passing addresses, passing arrays, pointer arrays.
4. Data Structures: Structures, arrays of structures, structures as function arguments, passing a pointer, returning structures, dynamic data structure allocation, searching an array of structures.
5. Recursion. How the computation is performed by use of the stack, recursion versus iteration.
6. I/O File Streams and Data Files: I/O File Stream Objects and Methods, reading and writing character-based files, exceptions and file checking.
7. Introduction to Object Oriented Programming: Introduction to Objects and Classes, class functions.

**Learning Activities and Teaching Methods:**

Lectures, Lab Presentations, Lab Tutorials, Practical Exercises and Assignments.

**Assessment Methods:**

Participation/Homework Assignments/Quizzes, Projects, Assignments, Mid-Term Exam, Final Exam.

**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
<i>Introduction to Programming with C++, 3<sup>rd</sup> Ed.</i>	Daniel Y. Liang	Prentice Hall	2013	0133252817



**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
C++ How to Program, 2 <sup>nd</sup> Ed.	Deitel & Deitel	Prentice Hall Inc.	1998	0-13-528910-6
The C++ Programming Language, 3 <sup>rd</sup> Ed.	Bjarne Stroustrup	AddisonWesley	1997	0-201-88954-4
C++ Primer	J. LaJoie, S. B. Lippman & B. E. Moo	AddisonWesley	2005	0-201-72148-1



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MIS-256	Web-based Applications Development	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
MIS-151	Management	Fall/Spring/Summer
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	MIS	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Prof. Despo Ktoridou	2 <sup>nd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face-to-Face	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Provide a comprehensive introduction to web-based technologies.
- Provide an authoritative overview to a set of key technologies for building web applications (HTML, HTML5, JavaScript, Dynamic HTML, CSS, ASP, AJAX, and XML).
- Provide an overview of Web 2.0, its applications and Rich Internet Applications (RIA).
- Introduce a higher-order conceptual design, patterns view of the architecture and design of a dynamic business web application.
- Provide a comprehensive overview to web design alternatives: Platforms, Frameworks, Content Management Systems (WordPress implementation).

### Learning Outcomes:

After completion of the course students are expected to be able to:

1. understand web-based technologies: (students will be provided with a comprehensive overview on: web-based technology; anatomy of web-based technology; evolution of web-based technology; examples and finally evolution of development tools);
2. understand the basics of key technologies for building Web Applications such as HTML, JavaScript, Dynamic HTML, CSS, ASP, PHP, AJAX, and XML): (students should be able to apply the above key technologies for developing light-weighted and rich-content Web applications);

3. understand the theoretical basics of Web 2.0, its implications and Rich Internet Applications (RIA): (students will acquire the necessary knowledge and understanding of Web 2.0: business aspects, Characteristics and Meme, Rich Internet Applications: Practices, Technologies, and Frameworks);
4. use higher-level conceptual design patterns for web-applications: (students will have the necessary knowledge and skills to design, develop and maintain a dynamic business web application);
5. understand the core information on:
  - web design alternatives: Platforms, Frameworks, Content Management Systems
  - the features, Content Management and Design, Administration and Security of WordPress

(Students will have the necessary knowledge and skills to value CMS, build and deploy feature-rich, interactive business web applications in Microsoft environments using the Web Content Management Platform WordPress).

### Course Content:

#### **SECTION I: Introduction to web-based Technology**

- Definition
- Anatomy
- Evolution
- Examples
- Evolution of development tools

#### **SECTION II: Introduction to a set of Key Technologies for Building Web Apps**

Introduction to: HTML and HTML5, JavaScript, CSS, ASP, PHP, AJAX, and XML

#### **SECTION III(a): Web 2.0 Technologies**

- Introduction to Web 2.0
- Business Aspects of Web 2.0
- Characteristics and Memes of Web 2.0
- Rich Internet Applications (RIA)
- Social Networks
- The IT infrastructure necessary to run WEB 2 applications, including Cloud Computing
- Web-Centric Development and Architectural Models

#### **SECTION III(b): Rich Internet Applications RIA**

- Rich Internet Applications: Practices, Technologies, and Frameworks
- What Exactly Is an RIA and Why Do We Care About It?
- A Techno-Business Tour Through the RIA Land
- Web 2.0 RIA Technologies, Standards, and Frameworks

#### **SECTION IV: Principles of Usability and Heuristic Evaluation**

- Usability Testing
- Heuristic Evaluation Checklist

**SECTION V: Design Principles for Building Business Web Applications**

- Foundations of Business Web Application Design
- Patterns for Creating Winning Business Web Applications

**SECTION VI: Web Design Alternatives**

- Platforms,
- Frameworks,
- Content Management Systems

**SECTION VII: WordPress**

- Why WordPress
- The WordPress Admin Dashboard & Bar
- WordPress setting
- Pages and posts
- Categories and tags
- Plugins
- Themes
- Menus
- SEO

**Learning Activities and Teaching Methods:**

Laboratorial work, Faculty Lectures and Guest-Lectures Seminars, Directed and Background Reading Case-studies, Student-led Presentations.

**Assessment Methods:**

Participation/Attendance; Assignments; Project; Final Exam.

**Required Textbooks / Readings:**

Title	Author(s)	Publisher	Year	ISBN
A Visual Step-by-Step Guide to Mastering WordPress	Andy Williams	Independently	2020	979-8584887780

**Recommended Textbooks / Readings:**

***Web Sources:***

What is User Generated Content: Complete Guide to UGC & why you need it  
<https://www.tintup.com/blog/user-generated-content-definition/>



## Course Syllabus

<b>Course Code</b>	<b>Course Title</b>	<b>ECTS Credits</b>
MIS-151	Business Software Applications	6
<b>Prerequisites</b>	<b>Department</b>	<b>Semester</b>
None	Management	Fall/Spring
<b>Type of Course</b>	<b>Field</b>	<b>Language of Instruction</b>
Required	MIS	English
<b>Level of Course</b>	<b>Lecturer(s)</b>	<b>Year of Study</b>
1 <sup>st</sup> Cycle	Mr. Panayiotis Toumpas	1 <sup>st</sup> or 2 <sup>nd</sup>
<b>Mode of Delivery</b>	<b>Work Placement</b>	<b>Corequisites</b>
Face-to-Face	N/A	None

### Course Objectives:

The main objectives of the course are to:

- Describe how technology impacts our changing world.
- Explore ways to use the Internet in order to make the Most of the Web's Resources.
- Provide insights on User Generated Content (UGC) for businesses.
- Describe Cloud Computing Phenomenon.
- Explore Digital Data and Devices Protection with special reference to GDPR (General Data Protection Regulation) GDPR.
- Comprehend Networking and Security for businesses.
- Provide Database Fundamentals and provide hands -on approach on how Businesses Use Databases.
- Explore the concept of Enterprise Computing as a mission-critical system on which a business/organization depends on.
- Provide insights on AR/VR technologies and their applications in the business sector.

### Learning Outcomes:

After completion of the course students are expected to be able to:

1. Demonstrate the importance and impact of technology in society discuss ethical computing issues.
2. Evaluate and implement ways to use the web for an effective communication, collaboration and sharing in a 'business environment'.

3. Discuss the benefits of UGC for businesses to build trust and grow.
4. Explore Cloud computing service categories and the effect on the enterprise.
5. Analyze the Digital Data and Devices Protection and practice GDPR General Data Protection Regulation issues.
6. Discuss the key theoretical concept of Networking technologies and Security for businesses.
7. Demonstrate the importance of Database development for Businesses.
8. Discuss the importance of Enterprise Computing and how involves the development, deployment and maintenance of the information systems required for success in today's businesses/organizations' environment.
9. Discuss the application of AR/VR technologies in the business sector.

### Course Content:

#### **Lecture 1: The Impact of Technology in a Changing World**

- Technology in Society
- Emerging Technologies and Ethical Computing

#### **Lecture 2: Internet Technologies: Making most of web resources**

- Collaborating and Working on the Web
- Using the Web Effectively

#### **Lecture 3: User-Generated Content**

- Evolution of User-Generated Content (UGC)
- Personal Webpages

#### **Lecture 4: Cloud Computing: Business in the Cloud**

- Define Cloud Computing and its Relevance
- Cloud Computing Service Categories
- Cloud Deployment Methods
- Pros & Cons Cloud Computing
- The Future of Cloud Computing
- The Effect of Cloud Computing on the Enterprise

#### **Lecture 5: Securing Your System: Protecting Your Digital Data and Devices**

- Threats to Your Digital Assets
- Protecting Your Digital Property

#### **Lecture 6 - Spotlight: GDPR (General Data Protection Regulation)**

- What is GDPR
- Requirements for managing personal data in the cloud
- Challenges of using cloud-based services

- The 5 - key technology and legal requirements cloud - storage services should meet to help you ensure GDPR compliance
- How do major cloud - storage services Box, Dropbox, OneDrive, and Tresorit compare in terms of GDPR compliance

**Lecture 7: Databases and Information Systems**

- Database Fundamentals
- How Businesses Use Databases

**Lecture 8: Networking and Security in the Business World**

- Client/Server Networks and Topologies
- Setting Up Business Networks

**Lecture 9: Enterprise Computing**

- Introduction to enterprise and personal computing.
- *Business process* and its flow within an organization.
- Centralized Vs distributed technology management.
- Enterprise computing Tools and storage systems.
- Electronic data interchange and the features that make it popular.
- Enterprise: teleconferencing; telecommuting and workgroup computing.

**Lecture 10 – Spotlight: Business AR/VR**

- AR/VR Technologies
- AR/VR Applications in Businesses

**Learning Activities and Teaching Methods:**

Laboratorial work, Faculty Lectures and Guest-Lectures Seminars, Directed and Secondary Reading Case-studies, In-class Exercises, Student-led Presentations.

**Assessment Methods:**

Participation/Attendance, Project, Assignments, Final Exam



**Recommended Textbooks / Readings:**

<b>Title</b>	<b>Author(s)</b>	<b>Publisher</b>	<b>Year</b>	<b>ISBN</b>
Technology in Action, Complete Global 15 <sup>th</sup> Ed.	Alan Evans, Kendall Martin, Mary Anne Poatsy	Prentice Hall	2019	9780134837895
Computers are your future: Pearson New International 12 <sup>th</sup> Ed.	Cathrene Laberta	Prentice Hall	2013	10: 1292021055

Web Sources:

- What is GDPR? Everything you need to know about the new general data protection regulations (General Data Protection Regulation, or GDPR, is coming. Here's what it means, how it'll impact individuals and businesses - and how to prepare for it). By Danny Palmer (May 23, 2018)  
Website: <https://www.zdnet.com/article/gdpr-an-executive-guide-to-what-you-need-to-know/>