Book of short descriptions by course

School of Computer Science

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Task Force

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Contents

1.1 CS111. Computing Foundations

This is the first course in the sequence of introductory courses to Computer Science.This course is intended to cover the concepts outlined by the Computing Curricula IEEE-CS/ACM 2013. Programming is one of the pillars of Computer Science; any professional of the area, will need to program to materialize their models and proposals. This course introduces participants to the fundamental concepts of this art. Topics include data types, control structures, functions, lists, recursion, and the mechanics of execution, testing, and debugging.

1.2 CS1D1. Discrete Structures I

Discrete structures provide the theoretical foundations necessary for computation. These fundamentals are not only useful to develop computation from a theoretical point of view as it happens in the course of computational theory, but also is useful for the practice of computing; In particular in applications such as verification, cryptography, formal methods, etc.

1.3 MA100. Mathematics I

The course aims to develop in students the skills to deal with models in science and engineering related to single variable differential calculus skills. In the course it is studied and applied concepts related to calculation limits, derivatives and integrals of real and vector functions of single real variables to be used as base and support for the study of new contents and subjects. Also seeks to achieve reasoning capabilities and applicability to interact with real-world problems by providing a mathematical basis for further professional development activities.

1.4 FG101. Communication

To achieve an effective communication in the personal and professional field, The adequate handling of the language in oral and written form is a priority. It is therefore justified that the students know, understand and apply the conceptual and operational aspects of their language, for the development of their fundamental communication skills: listening, speaking, reading and writing.

Consequently, the permanent exercise and the contribution of the contribute greatly to academic training and, in the future in the course of their work

1.5 FG102. Study Methodology

Students in vocational training need to improve their attitude towards academic work and demands. In addition, they should understand the mental process that occurs in the exercise of study to achieve learning, so they know where and how to make the most appropriate adjustments to their needs. They also need to master various forms of study, so that they can select the strategies best suited to their personal learning style and the nature of each subject. They also need to know and use ways to search for academic information and do creative work

of a formal academic nature, so that they can apply them to their college work, making their effort successful.

2.1 CS112. Computer Science I

This is the second course in the sequence of introductory courses in computer science. The course will introduce students in the various topics of the area of computing such as: Algorithms, Data Structures, Software Engineering, etc.

2.2 CS1D2. Discrete Structures II

In order to understand the advanced computational techniques, the students must have a strong knowledge of the Various discrete structures, structures that will be implemented and used in the laboratory in the programming language..

2.3 MA101. Math II

The course is focused on developing skills in problem understanding, comprehension and application of mathematical models. To this end, an active and participatory methodology is developed with rational use of technology and collaborative work spaces. The sessions are theoretical and practical associated to contextualized situations that motivate the student to get involved in their understanding and solution. The course aims to address the following main topics which will be monitored every week, these topics are Vectors, Functions of Several Variables, Partial Derivatives, Double Integrals, Series and Ordinary Differential Equations of first order and second or more order

2.4 FG106. Theater

It helps students to identify themselves with the 'Academic Community' of the University, insofar as it provides them with natural channels of integration into their group and their Study Centre and allows them, from an alternative viewpoint, to visualise the inner worth of the people around them, while at the same time getting to know their own. It relates the university student, through experimentation, with a new language, a means of communication and expression that goes beyond the conceptualized verbal expression. It helps the student in his integral formation, developing in him corporal capacities. It stimulates positive attitudes, cognitive and affective skills. It enriches their sensitivity and awakens their solidarity. It disinhibits and socializes, relaxes and makes people happy, opening a path of knowledge of one's own being and the being of others.

3.1 CS113. Computer Science II

This is the third course in the sequence of introductory courses in computer science. This course is intended to cover Concepts indicated by the Computing Curriculum IEEE (c) -ACM 2001, under the functional-first approach. The

object-oriented paradigm allows us to combat complexity by making models from abstractions of the problem elements and using techniques such as encapsulation, modularity, polymorphism and inheritance. The Dominion of these topics will enable participants to provide computational solutions to design problems simple of the real world.

3.2 CS221. Computer Systems Architecture

A computer scientist must have a solid knowledge of the organization and design principles of diverse computer systems, by understanding the limitations of modern systems they could propose next-gen paradigms. This course teaches the basics and principles of Computer Architecture. This class addreses digital logic design, basics of Computer Architecture and processor design (Instruction Set architecture, microarchitecture, out-of-order execution, branch prediction), execution paradigms (superscalar, dataflow, VLIW, SIMD, GPUs, systolic, multithreading) and memory system organization.

3.3 CS2B1. Platform Based Development

The world has changed due to the use of fabric and related technologies, rapid, timely and personalized access to the information, through web technology, ubiquitous and pervasive; they have changed the way we do things, how do we think? and how does the industry develop? Web technologies, ubiquitous and pervasive are based on the development of web services, web applications and mobile applications, which are necessary to understand the architecture, design, and implementation of web services, web applications and mobile applications.

3.4 FG203. Oratory

In a competitive society such as ours, it is required that the person be an effective communicator and know how to use his or her potential to solve problems and face the challenges of the modern world within the work, intellectual and social activity. Having knowledge is not enough, the important thing is to know how to communicate it and to the extent that the person knows how to use his or her communicative faculties, what he or she has to do in his or her personal and professional development will derive in success or failure. Therefore it is necessary to achieve a good saying, to resort to knowledge, strategies and resources, which every speaker must have, to reach the interlocutor with clarity, precision and conviction.

4.1 CS210. Algorithms and Data Structures

The theoretical foundation of all branches of computing rests on algorithms and data structures, this course will provide participants with an introduction to these topics, thus forming a basis that will serve for the following courses in the career.

4.2 CS211. Theory of Computation

This course emphasizes formal languages, computer models and computability, as well as the fundamentals of computational complexity and complete NP problems.

4.3 CS271. Data Management

Information management (IM) plays a major role in almost all areas where computers are used. This area includes the capture, digitization, representation, organization, transformation and presentation of information; Algorithms to improve the efficiency and effectiveness of accessing and updating stored information, data modeling and abstraction, and physical file storage techniques.It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which (IM) methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable restrictions, including Scalability and usability.

4.4 CS2S1. Operating systems

An Operating System (OS) manages the computing resources to complete the execution of multiple applications and their associated processes. This course teaches the design of modern operating systems; and introduces their fundamental concepts covering multiple-program execution, scheduling, memory management, file systems, and security. Also, the course includes programming activities on a minimal operating system to solve problems and extend its functionality. Notice that these activities require much time to complete. However, working on them provides valuable insight into operating systems.

4.5 MA203. Statistics and Probabilities

It provides an introduction to probability theory and statistical inference with applications, needs in data analysis, design of random models and decision making.

4.6 FG350. Leadership and Performance

At present, the different organizations in the world demand from their members the exercise of leadership, this means assuming the challenges assigned with efficiency and eagerness to serve, being these demands necessary for the search of a more just and reconciled society. This challenge involves the need to form our students with a correct knowledge of themselves, with the capacity to judge reality objectively and to propose orientations that seek to positively modify the environment.

5.1 CS212. Analysis and Design of Algorithms

An algorithm is, essentially, a well-defined set of rules or instructions that allow solving a computational problem. The theoretical study of the performance of the algorithms and the resources used by them, usually time and space, allows us to evaluate if an algorithm is suitable for solving a specific problem, comparing it with other algorithms for the same problem or even delimiting the boundary between Viable and impossible. This matter is so important that even Donald E. Knuth defined Computer Science as the study of algorithms. This course will present the most common techniques used in the analysis and design of efficient algorithms, with the purpose of learning the fundamental principles of the design, implementation and analysis of algorithms for the solution of computational problems

5.2 CS272. Data Management II

Information Management (IM) plays a leading role in almost every area where computers are used. This area includes the capture, digitization, representation, organization, transformation and presentation of information; Algorithms to improve the efficiency and effectiveness of access and update of stored information, data modeling and abstraction, and physical file storage techniques.

It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which IM methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable constraints, including scalability and Usability.

5.3 CS291. Software Engineering I

The aim of developing software, except for extremely simple applications, requires the execution of a well-defined development process. Professionals in this area require a high degree of knowledge of the different models and development process, so that they are able to choose the most suitable for each development project. On the other hand, the development of medium and large-scale systems requires the use of pattern and component libraries and the mastery of techniques related to component-based design

5.4 CS342. Compilers

That the student knows and understands the concepts and fundamental principles of the theory of compilation to realize the construction of a compiler

5.5 CB111. Computational Physics

The course develops the knowledge and skills to recognize, evaluate and apply the effects of physical phenomena related to mechanics in the field of engineering. In industry in general, the control of processes, the operation of machines, their

maintenance, etc., are always governed by some kind of physical manifestation. Because of this, it is important for the student to understand the foundations of physical phenomena, the laws that govern them, their manifestation and the way to detect them. This course will allow the student to understand and identify the physical phenomena related to mechanics in order to control their effects on some technical process.

6.1 CS261. Intelligent Systems

Research in Artificial Intelligence has led to the development of numerous relevant tonic, aimed at the automation of human intelligence, giving a panoramic view of different algorithms that simulate the different aspects of the behavior and the intelligence of the human being.

6.2 CS292. Software Engineering II

The topics of this course extend the ideas of software design and development from the introduction sequence to programming to encompass the problems encountered in large-scale projects. It is a broader and more complete view of Software Engineering appreciated from a Project point of view.

6.3 CS311. Competitive Programming

Competitive Programming combines problem-solving challenges with the fun of competing with others. It teaches participants to think faster and develop problem-solving skills that are in high demand in the industry. This course will teach you to solve algorithmic problems quickly by combining theory of algorithms and data structures with practice solving problems.

6.4 CS312. Advanced Data Structures

Algorithms and data structures are a fundamental part of computer science that allow us to organize information more efficiently, so it is important for every professional in the area to have a solid background in this regard.

In the course of advanced data structures our goal is for the student to know and analyze complex structures, such as Multidimensional Access Methods, Spatio-Temporal Access Methods and Metric Access Methods, Compact Data Structures, etc.

6.5 CS393. Information systems

Analyze techniques for the correct implementation of scalable, robust, reliable and efficient information systems in organizations.

6.6 MA307. Mathematics applied to computing

This course is important because it develops topics of Linear Algebra and Ordinary Differential Equations useful in all areas of computer science where one works with linear systems and dynamic systems.

7.1 CS231. Networking and Communication

The ever-growing development of communication and information technologies means that there is a marked tendency to establish more computer networks that allow better information management..

In this second course, participants will be introduced to the problems of communication between computers, through the study and implementation of communication protocols such as TCP / IP and the implementation of software on these protocols

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7.3 CS2H1. User Experience (UX)

Language has been one of the most significant creations of humanity. From body language and gesture, through verbal and written communication, to iconic symbolic codes and others, it has made possible complex interactions Among humans and facilitated considerably the communication of information. With the invention of automatic and semi-automatic devices, including computers, The need for languages or interfaces to be able to interact with them, has gained great importance. The utility of the software, coupled with user satisfaction and increased productivity, depends on the effectiveness of the User-Computer Interface. So much so, that often the interface is the most important factor in the success and failure of any computer system. The design and implementation of appropriate Human-Computer Interfaces, which in addition to complying with the technical requirements and the transactional logic of the application, consider the subtle psychological implications, sciences and user facilities, It consumes a good part of the life cycle of a software project, and requires specialized skills, both for the construction of the same, and for the performance of usability tests.

7.4 CS391. Software Engineering III

Software development requires the use of best development practices, IT project management, equipment management And efficient and rational use of quality assurance frameworks, these elements are key and transversal during the whole productive process. The construction of software contemplates the implementation and use of processes, methods, models and tools that allow to achieve the realization of the quality attributes of a product.

7.5 CS401. Methodology of Computation Research

The objective of this course is for the student to learn how to carry out scientific research in the area of computers. The teachers of the course will determine an area of study for each student, and the student will be given a bibliography to analyze. From this bibliography, and from additional bibliographic sources (researched by the student), the student should be able to construct a survey type article on the assigned topic.

7.6 CS251. Computer graphics

It offers an introduction to the area of Computer Graphics, which is an important part of Computer Science. The purpose of this course is to investigate the fundamental principles, techniques and tools for this area.

7.7 CS262. Machine learning

Research in Artificial Intelligence has led to the development of numerous relevant tonic, aimed at the automation of human intelligence, giving a panoramic view of different algorithms that simulate the different aspects of the behavior and the intelligence of the human being.

7.8 CS2T1. Computational Biology

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

In Molecular Biology, there are several applications that involve both DNA, protein analysis or sequencing of the human genome, which depend on computational methods. Many of these problems are really complex and deal with large data sets.

This course can be used to see concrete use cases of several areas of knowledge of Computer Science such as Programming Languages (PL), Algorithms and Complexity (AL), Probabilities and Statistics, Information Management (IM), Intelligent Systems (IS).

8.1 CS281. Computing in Society

It offers a wide vision of the ethical and professional aspects related to computing. The topics included cover ethical, social and political aspects. The moral dimensions of computing. The methods and tools of analysis. Administration of computer resources. Security and control of computer systems. Professional and ethical responsibilities. Intellectual property.

8.2 CS3I1. Computer Security

Nowadays, information is one of the most valuable assets in any organization. This course is oriented to be able to provide the student with the security elements oriented to protect the Information of the organization and mainly to be able to foresee the possible problems related to this heading. This subject involves the development of a preventive attitude on the part of the student in all areas related to software development.

8.3 CS3P1. Parallel and Distributed Computing

The last decade has brought explosive growth in computing with multiprocessors, including Multi-core processors and distributed data centers. As a result, computing parallel and distributed has become a widely elective subject to be one of the main components in the mesh studies in computer science undergraduate. Both parallel and distributed computing the simultaneous execution of multiple processes, whose operations have the potential to intercalar in a complex way. Parallel and distributed computing builds on foundations in many areas, including understanding the fundamental concepts of systems, such as: concurrency and parallel execution, consistency in state / memory manipulation, and latency. The communication and coordination between processes has its foundations in the passage of messages and models of shared memory of computing and algorithmic concepts like atomicity, consensus and conditional waiting.Achieving acceleration in practice requires an understanding of parallel algorithms, strategies for decomposition problem, systems architecture, implementation strategies and analysis of performance. Distributed systems highlight the problems of security and tolerance to Failures, emphasize the maintenance of the replicated state and introduce additional problems in the field of computer networks.

8.4 CS402. Capstone Project I

This course aims to allow the student to carry out a study of the state of the art of a topic chosen by the student for his thesis.

8.5 CS361. Computational Vision

Research in Artificial Intelligence has led to the development of numerous relevant tonic, aimed at the automation of human intelligence, giving a panoramic view of different algorithms that simulate the different aspects of the behavior and the intelligence of the human being.

8.6 CS371. Data Analysis

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It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which IM methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable constraints, including scalability and Usability.

8.7 CS3T1. Information Processing in Biological Cells

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

In Molecular Biology, there are several applications that involve both DNA, protein analysis or sequencing of the human genome, which depend on computational methods. Many of these problems are really complex and deal with large data sets.

This course can be used to see concrete use cases of several areas of knowledge of Computer Science such as Programming Languages (PL), Algorithms and Complexity (AL), Probabilities and Statistics, Information Management (IM), Intelligent Systems (IS).

8.8 CS3T2. Omic Data Modeling

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

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8.9 ET201. Entrerpreneurship I

This is the first course in the area of training for technological basis, aims to provide the future professional of knowledge, attitudes and skills that will allow a business plan to be drawn up for a technology-based company. The course is divided into the following units: Introduction, Creativity, From Idea to Opportunity, The Canvas Model, Customer Development and Lean Startup, Legal Aspects and Marketing, Company Finance and Presentation.

The aim is to take advantage of the creative and innovative potential and effort of the students in the creation of new companies.

9.1 CS370. Big Data

Nowadays, knowing scalable approaches to processing and storing large volumes of information (terabytes, petabytes and even exabytes) is fundamental in computer science courses. Every day, every hour, every minute generates a large amount of information which needs to be processed, stored, analyzed.

9.2 CS403. Final Project II

This course aims at the student to conclude his thesis project.

9.3 CS351. Topics in Computer Graphics

In this course you can delve into any of the topics Mentioned in the area of Graphics Computing (Graphics and Visual Computing - GV).

This course is designed to perform some advanced course suggested by the ACM / IEEE curriculum. [**?**, **?**]

9.4 CS362. Natural Language Processing

Research in Artificial Intelligence has led to the development of numerous relevant tonic, aimed at the automation of human intelligence, giving a panoramic view of different algorithms that simulate the different aspects of the behavior and the intelligence of the human being.

9.5 CS363. Learning by Reinforcement

Research in Artificial Intelligence has led to the development of numerous relevant tonic, aimed at the automation of human intelligence, giving a panoramic view of different algorithms that simulate the different aspects of the behavior and the intelligence of the human being.

9.6 CS372. Web mining

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organization, transformation and presentation of information; Algorithms to improve the efficiency and effectiveness of access and update of stored information, data modeling and abstraction, and physical file storage techniques.

It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which IM methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable constraints, including scalability and Usability.

9.7 CS373. Data Visualization

Information Management (IM) plays a leading role in almost every area where computers are used. This area includes the capture, digitization, representation, organization, transformation and presentation of information; Algorithms to improve the efficiency and effectiveness of access and update of stored information, data modeling and abstraction, and physical file storage techniques.

It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which IM methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable constraints, including scalability and Usability.

9.8 CS392. Tópicos en Ingeniería de Software

Software development requires the use of best development practices, IT project management, team management and efficient and rational use of quality assurance and portfolio management frameworks, these elements are part key and transversal for the success of the production process.

This course explores the design, selection, implementation and management of IT solutions in Organizations. The focus is on applications and infrastructure and their application in the business.

9.9 CS3T3. Bioinformatic Algorithms

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

In Molecular Biology, there are several applications that involve both DNA, protein analysis or sequencing of the human genome, which depend on computational methods. Many of these problems are really complex and deal with large data sets.

This course can be used to see concrete use cases of several areas of knowledge of Computer Science such as Programming Languages (PL), Algorithms and Complexity (AL), Probabilities and Statistics, Information Management (IM), Intelligent Systems (IS).

9.10 CS3T4. Computational Genetics

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

In Molecular Biology, there are several applications that involve both DNA, protein analysis or sequencing of the human genome, which depend on computational methods. Many of these problems are really complex and deal with large data sets.

This course can be used to see concrete use cases of several areas of knowledge of Computer Science such as Programming Languages (PL), Algorithms and Complexity (AL), Probabilities and Statistics, Information Management (IM), Intelligent Systems (IS).

9.11 CB309. Bioinformatics

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In Molecular Biology, there are several applications that involve both DNA, protein analysis or sequencing of the human genome, which depend on computational methods. Many of these problems are really complex and deal with large data sets.

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9.12 ET301. Entrerpreneurship II

The aim of this course is to provide the future professional with knowledge, attitudes and skills that will enable him/her to form his/her own software development and/or IT consultancy company. The course is divided into three units: Project Assessment, Services Marketing and Negotiations. In the first unit, the student will be able to analyze and make decisions regarding the viability of a project and/or business.

In the second unit, the aim is to prepare the student to carry out a satisfactory marketing plan of the good or service that his company can offer to the market. The third unit seeks to develop the negotiating skills of the participants through experiential and practical training and theoretical knowledge that will allow them to close contracts where both the client and the supplier are winners. We consider these issues to be extremely critical in the launch, consolidation and eventual re-launching stages of a technology-based company.

10.1 CS365. Evolutionary Computing

La Computación Evolutiva comprende un conjunto de metodologías de búsqueda y optimización cuya base primordial es el Paradigma Neodarwiniano que agrupa

la Herencia Genética (Mendel), el Seleccionismo (Weismann) y la Evolución de las Especies (Darwin) que, cuando llevadas a implementaciones computacionales, ofrecen una herramienta poderosa de optimización global para una determinada función objetivo. Son bastante robustos cuando se supone la existencia de muchos óptimos locales. De esta forma, estos algoritmos pueden aplicarse en diversos problemas de optimización.

10.2 CS3P2. Cloud Computing

In order to understand the advanced computational techniques, the students must have a strong knowledge of the various discrete structures, structures that will be implemented and used in the laboratory in the programming language.

10.3 CS3P3. Internet of Things

The last decade has an explosive growth in multiprocessor computing, including multi-core processors and distributed data centers. As a result, parallel and distributed computing has evolved from a broadly elective subject to be one of the major components in mesh studies in undergraduate computer science. Both parallel computing and distribution involve the simultaneous execution of multiple processes on different devices that change position.

10.4 CS404. Final Project III

This course aims to enable students to complete properly their draft of thesis.

10.5 CS364. Cognitive Computing

Research in Artificial Intelligence has led to the development of numerous relevant tonic, aimed at the automation of human intelligence, giving a panoramic view of different algorithms that simulate the different aspects of the behavior and the intelligence of the human being.

10.6 CS366. Robotics

That the student knows and understands the concepts and fundamental principles of control, road planning and the definition of strategies in robotics as well as concepts of robotic perception in a way that understands the potential of robotic systems

10.7 CS369. Topics in Artificial Intelligence

It provides a set of tools to solve problems that are difficult to solve with traditional algorithmic methods. Including heuristics, planning, formalisms in the

representation of knowledge and reasoning, machine learning techniques, techniques applicable to action and reaction problems: as well as the learning of natural language, artificial vision and robotics among others.

10.8 CS374. Text Processing for Data Science

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It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which IM methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable constraints, including scalability and Usability.

10.9 CS379. Tópicos Avanzados en Ciencia de Datos

Information Management (IM) plays a leading role in almost every area where computers are used. This area includes the capture, digitization, representation, organization, transformation and presentation of information; Algorithms to improve the efficiency and effectiveness of access and update of stored information, data modeling and abstraction, and physical file storage techniques.

It also covers information security, privacy, integrity and protection in a shared environment. Students need to be able to develop conceptual and physical data models, determine which IM methods and techniques are appropriate for a given problem, and be able to select and implement an appropriate IM solution that reflects all applicable constraints, including scalability and Usability.

10.10 CS3T5. Modeling and Simulation of Biological Systems

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

In Molecular Biology, there are several applications that involve both DNA, protein analysis or sequencing of the human genome, which depend on computational methods. Many of these problems are really complex and deal with large data sets.

This course can be used to see concrete use cases of several areas of knowledge of Computer Science such as Programming Languages (PL), Algorithms and Complexity (AL), Probabilities and Statistics, Information Management (IM), Intelligent Systems (IS).

10.11 CS3T9. Advanced Topics in Bioinformatics

The use of computational methods in the biological sciences has become one of the key tools for the field of molecular biology, being a fundamental part of research in this area.

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This course can be used to see concrete use cases of several areas of knowledge of Computer Science such as Programming Languages (PL), Algorithms and Complexity (AL), Probabilities and Statistics, Information Management (IM), Intelligent Systems (IS).

10.12 FG211. Professional Ethics

Ethics is a constitutive part inherent to the human being, and as such it must be reflected in the daily and professional actions of the human person.

It is indispensable that the person assumes an active role in society because the economic-industrial, political and social systems are not always in function of values and principles, being these in reality the pillars on which all the action of professionals should be based.

10.13 ET302. Entrerpreneurship III

This course is part of the training area of technology-based companies, aims to address all processes and good practices in the project management recommended by the *Project Management Institute* (PMI) contained in the *Project Management Body of Knowledge 2012* (PMBOK) applied in particular to technology-based projects such as construction, development, integration and implementation of application software.

The future professional who intends to venture into a software in the competitive globalised market, it must necessarily know the hard skills and practice the soft skills that are considered in the PMBOK. All contracts for the supply of goods (Hardware) or intangible (Software) as well as the services of consulting should be handled as small projects.

We believe it is of utmost importance to impart the fundamentals and experiences associated with project management to future professionals, we must consider that currently the client companies (national or international) that demand solutions require consulting companies to carry out system projects and information technology with PMI standards, more and more turns out to be a condition of exigibility to be able to win tenders and sign contracts for the supply of technology solutions, It also requires that the project leader, in addition to his or her training and experience to bring the project to a successful conclusion is a PMP.