Technology management

Academic Year: (2020 / 2021) **Review date: 10-07-2020**

Department assigned to the subject: Department of Business Administration

Coordinating teacher: ALVAREZ GIL, MARIA JOSEFA

Type: Electives ECTS Credits : 6.0

Year : Semester :

COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.

Students are asked to:
CB1. have demonstrated to possess and understand knowledge in an area of study that starts from the base of general secondary education, and is usually found at a level that, although supported by advanced textbooks, also includes some aspects that imply knowledge from the vanguard of his field of study
CB2. know how to apply their knowledge to their work or vocation in a professional manner and have the skills that are usually demonstrated through the elaboration and defense of arguments and the resolution of problems within their area of study
CB3. have the ability to gather and interpret relevant data (usually within their area of study) to make judgments that include a reflection on relevant social, scientific or ethical issues
CG1. know in depth the foundations of the scientific discipline of business administration (concept of company, institutional and legal framework, organization and management techniques).
CT2. Be able to correctly expose and write a topic or compose a speech following a logical order, providing accurate information and in accordance with established grammatical and lexical norms.
CT3. Be able to evaluate the reliability and quality of the information and its sources using such information in an ethical manner, avoiding plagiarism, and in accordance with the academic and professional conventions of the study area.
CT5. Know and be able to handle interpersonal skills on initiative and responsibility, negotiation, emotional intelligence, etc. as well as calculation tools that allow to consolidate the basic technical skills that are required in every professional field.
CE3. Know the operation of the different functional departments of a company (production, marketing, human resources, finances, etc.), and perform any management work in them with ease.
CE11 Know and know how to apply the existing planning tools in the company that competes in the digital age.

RA1. They have acquired advanced knowledge and demonstrated an understanding of the theoretical and practical aspects and the methodology of work in the field of business administration and digital technology with a depth that reaches the forefront of knowledge
RA3. Have the ability to collect and interpret data and information on which to base their conclusions including, when necessary and pertinent, reflection on issues of a social, scientific or ethical nature in the field of business of the digital era.
RA4. Be able to deal with complex situations or require the development of new solutions both in the academic and professional field within the field of digital business management.

DESCRIPTION OF CONTENTS: PROGRAMME

1. Principles of Technology Management focuses on Systems Engineering
2. Life Cycle Concepts and Models
3. Methods and techniques for the concept, development, production, utilization, support and retirement of systems in the organization.
4. The importance of processes in technology management.
5. Improvements of systems applying processes that leads to a successful technological management of complex systems in any organization.
6. Roles involved in technology management.

LEARNING ACTIVITIES AND METHODOLOGY

AF1. THEORETICAL-PRACTICAL CLASSES. They will present the knowledge that students should acquire. They will receive the class notes and will have basic texts of reference to facilitate the follow-up of the classes and the development of the subsequent work. Exercises, practical problems on the part of the student will be solved and workshops and evaluation tests will be carried out to acquire the necessary skills.

AF2. TUTORIES. Individualized assistance (individual tutorials) or group (collective tutorials) to students by the teacher.
AF3. INDIVIDUAL OR GROUP STUDENT WORK.
MD1 THEORY CLASS. Exhibitions in the teacher's class with support of computer and audiovisual media, in which the main concepts of the subject are developed and the materials and bibliography are provided to complement the students' learning.
MD2. PRACTICES. Resolution of practical cases, problems, etc. raised by the teacher individually or in groups.
MD3. TUTORIES. Individualized assistance (individual tutorials) or group (collective tutorials) to students by the teacher. For subjects of 6 credits, 4 hours will be dedicated with 100% of attendance.

ASSESSMENT SYSTEM

SE1. FINAL EXAM. In which the knowledge, skills and abilities acquired throughout the course will be assessed globally.
SE2. CONTINUOUS ASSESSMENT. It will assess the work, presentations, performance in debates, classroom presentations, exercises, practices and work in the workshops throughout the course.
To assess the knowledge, skills and abilities attained by students of the course, we will use two instruments, namely, a continuous evaluation mechanism and a final exam. The continuous evaluation will have a maximum weight of 90% and the final exam of 10%.
Regarding the FINAL EXAM, its date and time will be published by UC3M and the connection will be made through the Moodle Global Classroom platform, using the tools available for the Questionnaires in this environment. The content will be the agenda seen during the course. The exam will consist of two parts: Theory and Practice. The weight of each of them in the composition of the final grade is as follows: THEORY 50% and PRACTICE 50%. Each of the previous parts will be divided into sections, and the exam will be sequential, both in the completion of those sections, and in the questions or exercises that constitute them. This means that you will not be able to return to previous questions or exercises. The monitoring of the schedule will be strict, establishing a time for each section, at the end of which the platform will proceed to disconnect and send the documentation made by the student. The composition and exact schedule of the exam sections will be published 1 hour before the start of the exam.
Multiple choice questions (two or more proposed answers) will only have a correct answer (in case of doubt, it will always be the one that more or better fits the text of the statement), and will have a positive assessment in case of success and an assessment negative in case of failure. This negative evaluation will be such that it guarantees that the mathematical expectation of the event is null. Thus, if the question is worth 1 point and the number of answers is 4, indicating the correct one will suppose a point and marking one of the other three will subtract 1/3 of a point. The questions that require a numerical solution will be adjusted with the degree of significance indicated in the statement or in the answer itself (two decimal places, hundreds of kg, Millions of ¿, ...). However, for greater ease, in the exercises, the answers are usually in the same units that are expressed in the statement. Remember that to obtain a degree of significance of ¿¿ decimals it is convenient to work with at least one more (¿¿ + 1) in the previous operations.

RECOMMENDATIONS As done at home, there will be no "proportionated equations" or "proportionated tables" in any of the sections. It is recommended to have a normal distribution board on hand. In multiple choice answers, it is recommended to indicate the answer only when you are sure you want to answer the question. The platform lets you change your choice, but does not leave it blank again. To avoid these situations, in the theoretical part (composed of multiple choice questions) the option "I leave this question blank" has been enabled. Thus, in case you want to leave the answer blank after you have mistakenly marked any of the others, you can make the described choice, which will not count positively or negatively (it will be the same as not marking any response). Numerical responses require that commas be used only to separate decimals and that no periods (or commas) be used to represent thousands or millions of units in the answers. In the exercises with several questions (nested answers), it is recommended to review the first answers, in order to avoid that an error or confusion in them ¿spread¿ to the following ones.
CÓDIGO ÉTICO Y BUENAS PRÁCTICAS ¿Los principios del Código Ético y las disposiciones de la Guía de Buenas Prácticas de estudiantes de la UC3M, deben respetarse en todas las pruebas de evaluación, presenciales y online. Se recuerda que copiar en la prueba de evaluación, valerse de información suministrada por terceros o utilizar material no autorizado lleva aparejada la sanción de pérdida de la asignatura objeto de incidencia durante el curso en que se cometió¿ la falta. La asignatura será¿ calificada como SUSPENSO en las convocatorias ordinaria y extraordinaria con pérdida de los derechos de matrícula y sin derecho a dispensa o anulación. La suplantación de identidad o el uso no autorizado de dispositivos electrónicos para la realización de las pruebas de evaluación, tiene la consideración de falta grave que lleva aparejada la sanción de expulsión temporal o definitiva de la Universidad. Cualquier tipo de actuación fraudulenta detectada durante la realización del presente examen, será¿ sancionada en los términos establecidos en la Instrucción sobre el Régimen Jurídico y Procedimiento Disciplinario de aplicación a estudiantes de la Universidad Carlos III de Madrid en los procesos de

evaluación académica. Accediendo al cuestionario, el estudiante reconoce que ha leído y conoce las condiciones indicadas para la realización del examen.¿
Regarding the CONTINUOUS EVALUATION mechanism, it will comprise three ways of acting. The first refers to attendance at the master classes and small groups, and will be measured through the elements that allow it in the BB Collaborate application. This assistance may represent a maximum value of 10% of the grade for the course. The second way refers to active participation in virtual master classes and will be evaluated through the participation of students in the chats and forums included in the aforementioned application or platform. Students will be notified one week in advance of the conduct of such forums and chats and the content on which they will be. Complementary activities are part of the learning process of this subject. Among them, voluntarily students can participate in a lab experiment in which they will acquire first-hand knowledge of how behavioral aspects affect the techniques explained in this subject. Active participation can receive up to 40% of the grade for the course. Finally, the third way is to carry out team work following the instructions that the teachers will send to the students from the beginning of the course. These works are supported by a series of instructions regarding their format, their online presentation and their peer-to-peer discussion using the BBCollaborate platform. This third way can be worth up to 40% of the grade for the course.

Teamwork and continuous evaluation
There will be two team works and the teams will have been previously constituted.
FIRST WORK: It will be 10% of the final grade. It will consist of a work on a CASE, to analyze, synthesize and / or develop Topics 1 and 2 of the subject. The CASE will be edited for each course and may be different for each team. It is a written work. It will be described in detail in a specific document that will be released to students in class and will be published in Aula Global. The delivery date will be set as appropriate with the rest of the milestones of the academic semester. SECOND WORK: It will be 30% of the final grade. It will consist of continuous work throughout the course with the aim of establishing interrelationships between the concepts used in the course program, aspirational skills and current business, labor and social reality. It will cover the entire syllabus seen in class until the date of delivery of the work. It is a work with a double aspect: 1. Delivery of a written document. The conditions and details will be described in a specific document that will be announced to the students in class and will be published in Aula Global. 2. Oral presentation in class (virtual) by each team, with the participation of each and every one of the students that make up the team, of a section of the work (chosen through some previous random process). The assessment of the work will have a team component (mainly the written document and the presentation as a whole) and an individual component (specific presentation of the student).
FINAL SCORE: The Final Score will be calculated by adding the weights of each note described in the previous sections: ¿¿S = (attendance score x 0.1) + (participation score x 0.4) + (continuous evaluation score x 0.4) + (final exam score x 0.1)
In the event that this FINAL SCORE is less than 5 points, the EXTRAORDINARY EXAM, June 2021, will be available for those students willing to have a second chance to pass the course. This exam includes ALL the theoretical and practical issues studied in the course. And it will be carried out following the guidelines set for the ordinary exam, with the exception that in this case its score represents 100% of that corresponding to the final Score for the course and to pass this exam it is essential that the partial qualifications obtained in each of its two sections, theoretical and practical, exceeds a minimum value of 2,5 points out of 5.

% end-of-term-examination:	10
% of continuous assessment (assigments, laboratory, practicals…):	90

BASIC BIBLIOGRAPHY

- Melissa A. Schilling Strategic Management of Technological Innovation, McGraw-Hill Education, fifth edition, 2017

ADDITIONAL BIBLIOGRAPHY

- Daniel R. A. Schallmo , Leo Brecht (Author), Bujar Ramosaj Process Innovation: Enabling Change by Technology: Basic Principles and Methodology: A Management Manual and Textbook with Exercises and Review Questions, Springer Gabler, 2018