Virtual Equipments

Academic Year: (2019 / 2020) **Review date: 02-04-2019**

Department assigned to the subject: Department of Computer Science and Engineering

Coordinating teacher: MEDINA DOMINGUEZ, FUENSANTA

Type: Electives ECTS Credits : 6.0

Year : 4 Semester : 1

STUDENTS ARE EXPECTED TO HAVE COMPLETED

Principles of Software Development

COMPETENCES AND SKILLS THAT WILL BE ACQUIRED AND LEARNING RESULTS.

Generic Competences:
- Abstraction (PO a)
- Analysis and Synthesis (PO a)
- Ability to Organise and Plan (PO b)
- Ability to solve problems (PO c, e)
- Ability to work in group (PO d)
- Ability to transfer the knowledge acquired to practical exercises (PO e)
- Ability to communicate effectively (PO g)

Specific Competencies
- Cognitives (PO a, b, d, i, h, k)

1) General concepts about virtual teams.
2) Knowledge of virtual teams management
3) Knowledge about the mechanisms to create virtual teams
4) Knowledge about cultural management models
5) Knowledge about the models of communication and collaboration in virtual teams
6) Knowledge about expression techniques in virtual communications
7) Knowledge of how to manage projects in virtual teams
8) Knowledge of collaborative work tools
9) Knowledge of social software tools

- Instrumental (know-how) (PO a, b, e, k, g)

1) Manage projects in virtual teams
2) Use collaborative working tools
3) Use social software tools
4) Analyze and design virtual machines
5) Plan communication and collaboration mechanisms in virtual teams
6) Managing cultural diversity in virtual teams

- Attitude (to be) (PO c, d, e, i)

1) Ability to generate new forms of communication and collaboration in virtual teams
2) Concern about project management in virtual teams
2) Leadership and coordination capacity

General Competences
* To be able to generate new ideas (creativity), to anticipate new situations and to adapt to work in team and to relate with others, but at the same time to be able to work autonomously (CG2)
* Be able to expose and discuss proposals in teamwork, demonstrating personal and social skills that allow them to assume different responsibilities within them.

Specific competences for minor in information systems
* Ability to integrate IT solutions and business processes to meet the information needs of organizations, allowing them to achieve their objectives effectively and efficiently, giving them competitive advantages. (CESI1)
* Ability to understand and apply the principles and practices of organizations so that they can act as a liaison between the technical and management communities of an organization and actively participate in the training of users (CESI4)

DESCRIPTION OF CONTENTS: PROGRAMME

This subject is focused on team management and global software development.

In this subject, it will be analyzed and discussed the nature, motivation and importance of virtual teams. Also, it will work on each of the main distances that characterize them:

a) Geographical distance: it will be analyzed and put into practice the models of communication and collaboration;and the tools implemented to minimize the impact of the geographical distance among team members.
b) Cultural Distance: it will work theoretical and practical CULTURAL MANAGEMENT models in order to learn how to manage the cultural diversity in the labor market.
c) Language Distance: it will be analyzed techniques, tools and methods of oral and written communication that facilitate the comprehension and understanding among members of teams with disparate native languages.

In addition, we will study the business models around this new virtual environment and how traditional and modern engineering software (agile approach) is adapted to this new environment.

These contents are distributed through a range of topics arranged in the Syllabus:

1) Effect of virtual team management in the software engineer profile.
2) Concepts about team management, both virtual and face to face.
3) Mechanisms for creating virtual teams.
4) Software collaborative work tools.
5) Technical writing and speaking for the use of remote communication web tools.
6) Project management for virtual teams.
7) Social software for working in virtual teams

In the course, we will use techniques of VISUAL THINKING as mental maps and different techniques of post-it. A workshop with the methodology LEGO® SERIOUS PLAY® will be conducted and it will be used a simulation tool for scenarios in managing virtual teams.

LEARNING ACTIVITIES AND METHODOLOGY

1. Lectures: 1 ECTS. Masterful and participatory approach to get the specific competencies of the subject.(PO a,b,c,i,h)

2. Practices: 1 ECTS. To get the specific instrumental competences and most of generic competences, such as: working in a virtual and face to face team, ability to apply knowledge to practice, ability to organize and plan and analysis and synthesis. They also are driven to develop the attitude competences of the subject. A practical example about a real problem working in virtual teams will be carried out. (PO a, b, c, d, e, k, g)

3. Academic Work:
- With professor assistance: 1,5 ECTS. A problem related to manage and work in virtual teams where the student focuses on some aspects of the subject.(PO a,b,c,d,e,k,g)
- Without professor assistance: 2 ECTS, exercises and complementary readings. (PO a,b,c,d,e,k,g)

4. Exam: 0,5 ECTS. It is aimed to emphasize and complement in developing cognitive and instrumental specific abilities. (PO a, c, i, h)

ASSESSMENT SYSTEM

Practices and exams, as well as serving as formative activity, have the dual aim of being measure for the evaluation system. This evaluation system includes the assessment of assisted academic activities work and practices according to the next weights.

Exam (in the case of continuous assessment) 10%

Practices: 90, of which:
- With professor assistance: 45%.
- Without professor assistance: 45%.

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

BASIC BIBLIOGRAPHY

- Carmel, E. Global Software Teams: Collaborating Across Borders and Time Zones, Prentice Hall, 1999

- Ebert, C. Global Software and IT: A Guide to Distributed Development, Projects, and Outsourcing, Wiley, 2011

- Eckstein, J. Agile Software Development with Distributed Teams: Staying Agile in a Global World , Dorset House Publishing, 2013
- Iqbal A., Gencel C., Abbas S. Communication Risks and Best practices in Global Software Development, LAP Lambert Academic Publishing , 2012
- Pauleen, D Virtual teams: projects, protocols and processes, IGI Global, 2004

- Piattini M., Vizcaíno A., Garcia F. Desarrollo Global de Software, RA-MA S.A. Editorial y Publicaciones, 2014

ADDITIONAL BIBLIOGRAPHY

- Gibson, C.B.; Cohen, S.G Virtual teams that work: creating conditions for virtual team effectiveness, John Wiley and Sons, 2003
- Lipnack,J; Stamps, J. Virtual teams: people working across boundaries with technology, Wiley, 2000

- Siebdrat, F. Virtual teams: understanding their dynamics and leveraging their performance ; an empirical study of software development teams, F. Siebdrat, 2009