uc3m Universidad Carlos III de Madrid

Creativity applied to problem solving

Academic Year: (2023 / 2024) Review date: 27-05-2021

Department assigned to the subject: Transversal matters

Coordinating teacher:

Type: Compulsory ECTS Credits: 3.0

Year: 3 Semester:

OBJECTIVES

At the end of the program students will be able to:

- Identify characteristics of creative personality and assess the individual level of creativity.
- Get familiar with the main creative skills.
- Lear and apply different creativity tools.
- Improve the ability to use the creative thinking approach to problem solving.

DESCRIPTION OF CONTENTS: PROGRAMME

- 1. Introduction: What is and what is not creativity?
- 2. The creative personality.
- Lateral thinking.
- Creative skills.
- 5. Key principles of creativity.
- 6. Evaluation of the level of creativity.
- 7. Methods and tools for the application of creative thinking.
- 8. The process of problem solving: models, phases, tools and application.
- 9. Monitoring and control of decisions.
- 10. Group decision making. The consensus.

LEARNING ACTIVITIES AND METHODOLOGY

Teaching hours are distributed in accordance to the following activities:

- ¿ Exposition of different topics related to the program content.
- Exercises and team dynamics related to the content specially those reflecting operative problems together with interaction problems (such the helium stick exercise).
- in-group comments and evaluation of exercises, including presenter's suggestions and practical advices.
- ¿ Video clips for reflection and analysis of models.
- ¿ Visual metaphor for solving problems in groups.

ASSESSMENT SYSTEM

Final exam in the official exam session: 0 points.

Continuous assessment: 10 points of the overall grade.

- Attendance at 85% of the classes is compulsory in order to pass the course.
- Active participation in the classes.
- Completion of exercises and practical activities in class and through Aula Global.
- Two written assessment tests: one in the 7th class, a short development test that will deal with the contents worked on in the previous classes; another in the 14th class: a development test on the whole of the syllabus taught in which students must summarise the contents dealt with and draw conclusions on the practical applications of the same at a professional level. They must also write a conclusion and personal self-assessment on the level of development they consider they have reached in the skill to which the subject refers.
- There may be other assessment tests that will be indicated in the weekly planning.

Percentage weight of the Final Exam: 0

Percentage weight of the rest of the evaluation: 10

% end-of-term-examination: 0
% of continuous assessment (assigments, laboratory, practicals...): 100

BASIC BIBLIOGRAPHY

- Edward de Bono, Seis sombreros para pensar, 2ª ed. En español, , Paidós ibérica,, 2008,
- Marianna ¿MIjer¿ Bojer, Heiko Roehl, Marianne Knuth y Colleen Magner, Mapping dialogue, , Taos Institute,, 2012,
- Mihaly Csikszentmilhayi, Creatividad: El fluir y la psicología del descubrimiento y la invención, , Paidós ibérica, , 1998,
- Tom Kelley y Jonathan Littman, Las diez caras de la innovación, , Paidós ibérica,, 2010,
- VV.AA., Creatividad en la solución de problemas, , Ed. M.A.D., 2005,