# Assignment Number 1

1. Read the articles "Basic Concepts and Taxonomy of Dependable and Secure Computing","SIFT: Design and Analysis of a Fault-Tolerant Computer for Aircraft Control" and Guard system (articles available at our learning management system), corresponding to our introductory software engineering lectures.

2. **Deadline: September, 2nd 2015 at TelEduc. In your Portfólio tool, please, upload a .pdf file with your answers**

3. This assignment should be executed individually.

4. Answer the following questions in a concise format (maximum of half page per answer), for both SIFT and GUARD systems.

   (a) list the main functional and non-functional requirements of the SIFT system.

   (b) What kinds of faults does the system tolerate?

   (c) What happens with the bug faults?

   (d) Give 2 examples where the principle of redundancy is applied.

   (e) The design solution assumes that one fault happens at a time. Describe a scenario where if this assumption is no longer true, the design goes wrong.

   (f) explain how does the SIFT system implements the four phases of fault tolerance: (a) error detection, (b) damage confinement, (c) error recovery, and (d) fault treatment and continued service.