

Computer science - a bridge between nuclear knowledge and practice

A. O. Pavelescu, E. N. Ghizdeanu

University "POLITEHNICA" of Bucharest, Power Engineering Faculty, Nuclear Power Plant Department, Romania

E-mail address of main author: apavelescu@cne.pub.ro

The paper analyses the horizon of the new information technologies, in a way that regards both parties involved in the education process: trainers and trainees. The case study refers to the Nuclear Power Plant Department within Power Engineering Faculty at University "POLITEHNICA" of Bucharest in Romania.

The study took into account the feedback information from the students, as well as the international framework (recommendation from IAEA) in order to postulate what can be changed or improved in order to create a better learning environment.

The work revealed the fact that students have a relatively poor education related to computer programming, although there are some applications currently being studied, such as

ACSL (Advanced Continuous Simulation Language). There is a need for better utilization of other general technical use programs such as Mathcad, Matlab, and specialized programs such as MMS (Module Modeling System) designed to simulate, in an attractive and "user friendly" mode, the comportment of a Nuclear Power Plant. This would increase the degree of understanding of the extremely complex processes that take place in such an installation.

Also the electric, non-electric and radioactive measurements could be performed through a modern computerized system (MicroShield, Fispact, InteRass - International Radiological Assessment System) that allows much better data acquisition, calibration, accuracy, representation, storage, interpretation and transmission of the digital information.

The students may be encouraged to exercise their basic programming skills for solving common technical problems occurred in their study projects which require simple linear iterations or more complex algorithms. If these applications are already created, the students must be permitted to use them, even thou their work become simplified.

Access to information and speciality courses is increasingly easier due to the new communications facilities, especially if the data could be found in an electronically format.

A more practical approach is imperative in order to capture the interest of the students. Because this is not always possible, the importance of computer simulated processes is emphasized.