

A central European training course on reactor physics and kinetics-the “Eugene Wigner Course” – Organisers View

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Initiated by the 5th Framework Programme of the European Commission, the European Nuclear Engineering Network (ENEN) is preparing the future European Nuclear Education schemes, degrees and requirements. To fully utilise the benefits of international co-operation and to promote the knowledge of students in nuclear engineering a 2,5 weeks course has been organised starting in spring 2003 and 2004. The main emphasis of the course is to perform reactor physics and kinetics experiments on three different research- and training reactors in three different locations (Vienna, Prague, Budapest). The experimental work is preceded by theoretical lectures aiming to prepare the students for the experiments (Bratislava). The students' work will be evaluated, and upon success the students will get a certificate. The finally accepted credit (ECTS) value will be determined by the students' home university. The ENEN-recommended value is between 6 and 8 ECTS. The more detailed description of the course will be given in the full paper.

These courses are an upgraded result of a long-standing similar cooperation between the above-mentioned four institutions in Vienna, Prague, Bratislava and Budapest. The participation was opened to students of any European university, however, basic knowledge of reactor physics theory is requested, and this knowledge has to be attested by a professor of the student's home university. The number of participants is limited to 20. The application is subject of a selection procedure, and may be refused, if the course is already fully booked, or if the selection committee decides so, due to any reason. The quality control and accreditation of ENEN assures that the acquired knowledge of the participants will fulfil the requirements of the European Nuclear Education and fits in the European ECTS system.

The cost of the 18 days course is in the range of 2000 €, which includes the tuition fee (utilization of 3 research reactors), textbooks, the accommodation during the time of the course (mostly in student hostels), and the transport between the four countries. These are all organised centrally. The travel to the “starting place” (Bratislava, Slovak Republic) and back to his/her home country is not included in the price, and must be arranged and paid individually. The applicant should also take care about his/her insurance and visa arrangements if necessary.

The participants are divided into four groups. During the first week all groups attend the preparatory theoretical courses in Bratislava, followed by a visit to an operating NPP and radioactive waste facility nearby. The second and third week the

groups rotate between Vienna, Prague and Budapest, and perform the reactor-experiments. The paper will describe in more detail the contents of the courses at the three research reactors. Emphasis was put on the fact not to duplicate experiments and to use at each reactor the special training possibilities. It is important to note that each reactor is of different design and power level: Prague-1 kW, Budapest-100 kW, Vienna-250 kW with pulsing capability to 250 MW. This offers a large range of training possibilities and increase the knowledge transfer. The paper presents the experience of two courses as well as the feedback from the students, already the second course had been modified to include suggestions for improvements from the first course. It has also to be mentioned that the two courses would not have been possible without the generous support of the IAEA and CENS.

The "Eugene Wigner Course" is a truly international training course in reactor physics and kinetics and an excellent example of international cooperation on a university level.