
THE BELGIAN NUCLEAR EDUCATION NETWORK, 5TH ACADEMIC YEAR

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In a country where a substantial part of the electricity generation will remain of nuclear origin for a number of years, there is a need for well educated and well trained engineers in this area. Public authorities, regulators and industry brought their support to this initiative. In 2001, the Belgian Nuclear Research Centre SCK•CEN and five Belgian universities signed a consortium agreement to set up an education programme in nuclear engineering. This academic year, a sixth university, ULB, joined the programme. The universities involved are now: KUL (Leuven), UG (Ghent), VUB (Brussels), UCL (Louvain-la-neuve), ULg (Liège) and ULB (Brussels). These seven partners have engaged themselves anew to provide students and young-professionals with a high-standard nuclear engineering programme.

The BNEN academic programme is a one-year (60 ECTS) Master-after-Master programme open for holders of a Master degree in engineering. The programme consists of ten courses to be followed mandatory (41 ECTS), the opportunity to select a number of advanced courses at will (up to 4 ECTS worth) and a Master thesis (15 ECTS). The subjects of the courses range from nuclear physics, nuclear reactor theory, nuclear thermo hydraulics to reactor plant operation and control, radiation protection and safeguards and nuclear materials. It also includes courses on nuclear energy and the nuclear fuel cycle. All courses are given in a modular fashion, i.e. the students get a course in the duration of one up to three weeks of continuous lectures and lab sessions. Attention is indeed paid to the fact that most courses are not only theoretical ones, but many of them have exercise sessions and laboratory sessions associated with them. These sessions are organised and thought by the scientific staff at SCK•CEN.

The number of students enrolling for the BNEN has seen a serious growth since the start of the initiative. The programme does not serve only "full-time" students, i.e. people having just obtained their Master degree and decide to take a one-year degree extra. Also a lot of young-professionals employed at different industrial stakeholders (nuclear power plants, regulatory body, engineering bureau ...) enrol for the programme. They typically spread the one-year programme over two or three years to combine their job with these studies. It is clear they get the full support from their employers, sometimes because they need the degree to be allowed in crucial positions in the company.

The BNEN programme is also a founding father of the ENEN programme (European Nuclear Education Network). Students are encouraged to take up courses in a foreign university to broaden their views.

Thanks to the modular approach, the courses are also open for young (but also not-so-young-anymore) professionals who wish to refresh or deepen their knowledge on nuclear engineering subjects. Admission to the courses and exam is treated on a case-by-case basis by the BNEN Steering Committee.

The BNEN Steering Committee is committed to continue the nuclear engineering programme offering a high-level education. Within the 6th European Framework project, a Self-Assessment Report was written indicating both strong and weak points of the programme.

The Steering Committee has also contacts on a one-to-one basis with industrial stakeholders who send their employees to follow the programme. Based on this feed-back the Steering Committee can remediate any shortcomings in the programme or the organisation. However, the Steering Committee is strongly convinced that the BNEN programme must remain an academic program – and not an industrial training programme – of a high standard.

REFERENCES

- [1] THE BNEN programme. <http://www.sckcen.be/bnen>