

# Nuclear Engineering Education in Support of Thailand's Nuclear Power Programme

Pengvanich, P.; Chanyotha, S.\*; and Niluwankosit, S.

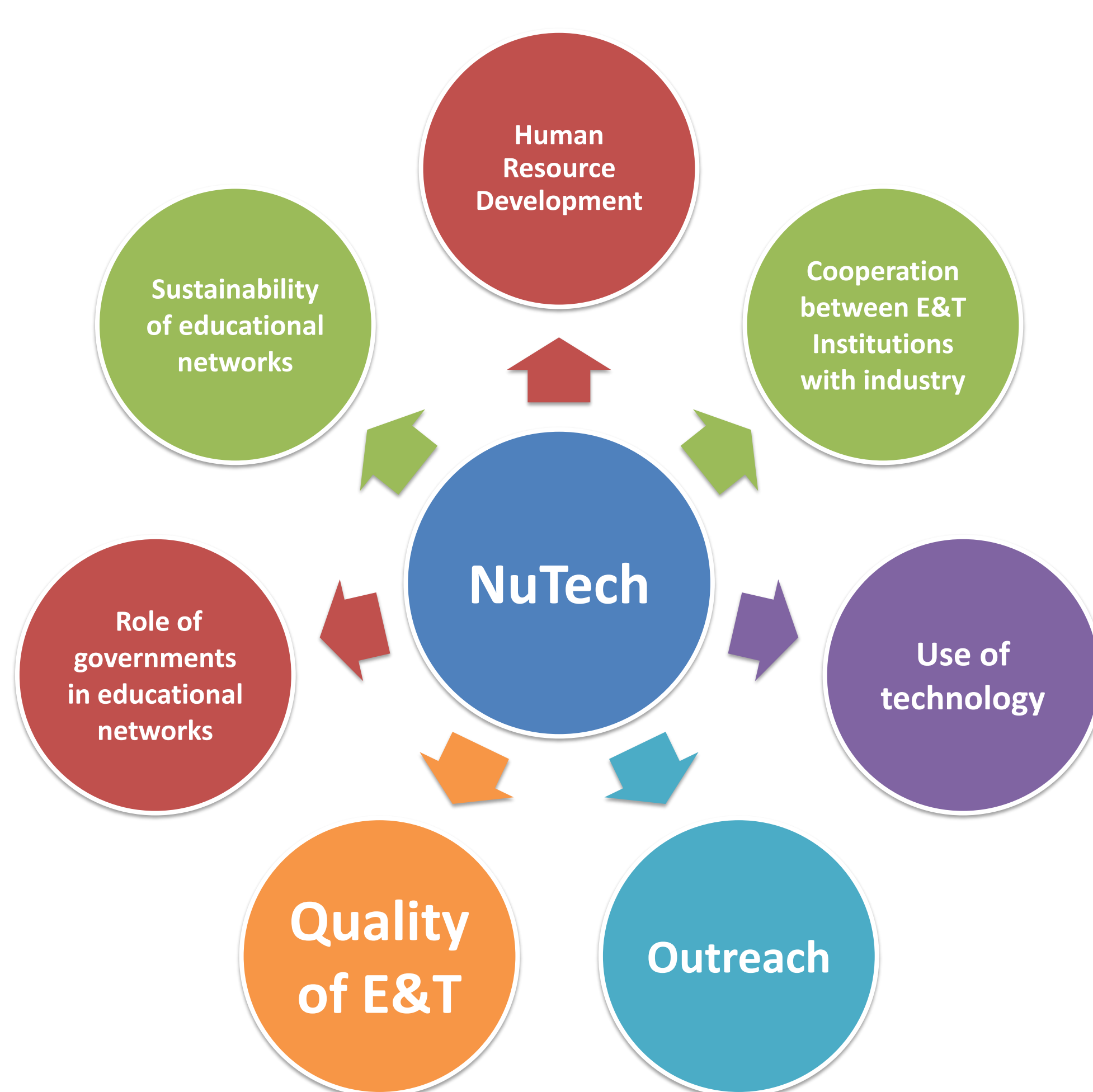
Department of Nuclear Engineering, Faculty of Engineering, Chulalongkorn University, Bangkok, Thailand

\*[supitcha.c@chula.ac.th](mailto:supitcha.c@chula.ac.th), [supitchacu18@gmail.com](mailto:supitchacu18@gmail.com)

A university may take on various roles to support nuclear power programme in a nuclear newcomer country, especially since nuclear knowledge and expertise may still be scarce, and public perception of nuclear may still consist of many misconceptions. These roles can include provision of formal education, training, technical support, educational materials, consultation, and public information. To fulfill these roles, however, sufficient and continuous support from the authority, such as the government, is crucial. In a nuclear newcomer country, policy toward nuclear power may be changed on a yearly basis. This affect the support that university can receive, as well as the number of student enrollment. University may need to balance its focus on other usages of nuclear technology while maintaining the knowledge of nuclear power as necessary.

## The Department

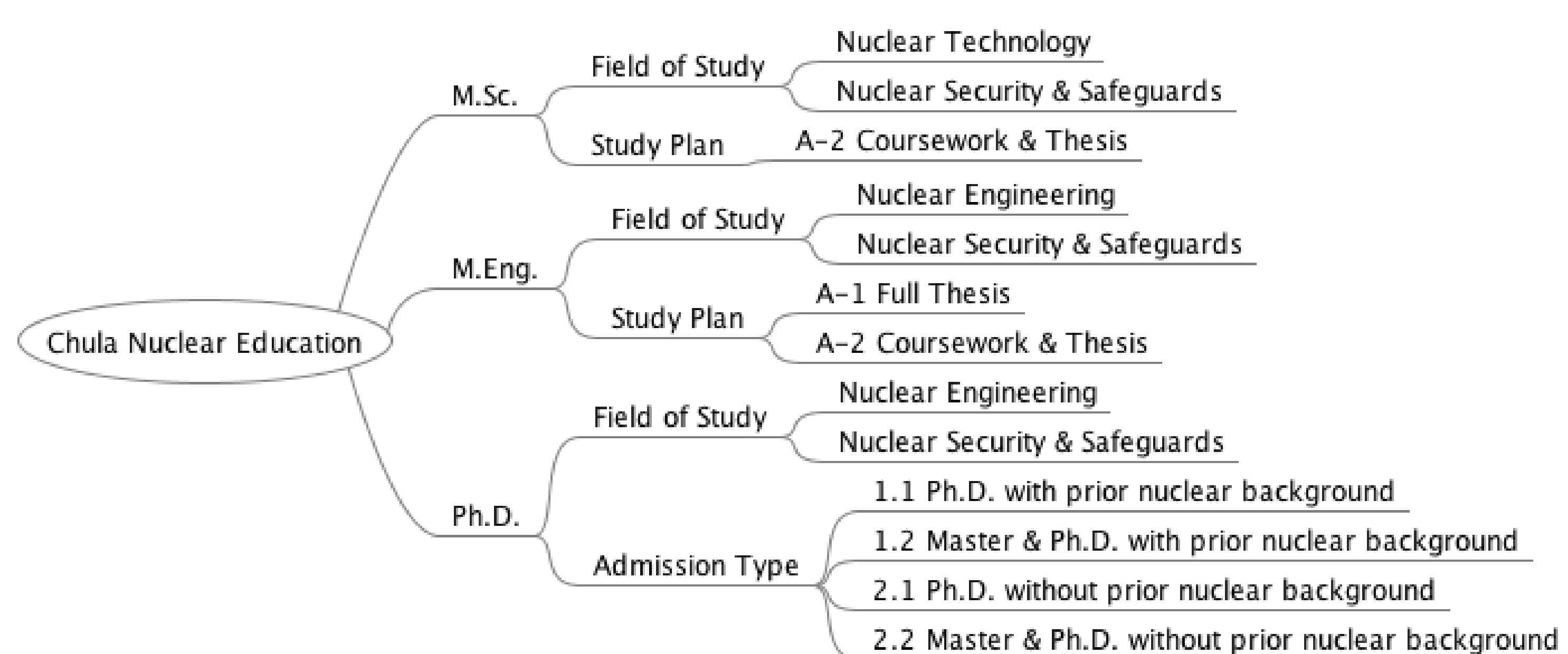
The Department of Nuclear Engineering or "NuTech" has recently celebrated its 40 years anniversary in 2013. Initially, the Department was established in order to support the human resources development for the first Thailand's nuclear power programme. Although the programme was never realized due to the discovery of natural gas in the Gulf of Thailand, the Department has to this day continued to produce professionals and provide technical support in nuclear and radiation technology for the Thai society.



## The Programme

The Department offers graduate programmes leading to degrees in Doctor of Philosophy (Ph.D.), Master of Engineering (M.Eng.), and Master of Science (M.Sc.). The programmes are structured to cover diversified principles of nuclear technology ranging from fundamental science and mathematics to specialized engineering applications. Areas of concentrations include nuclear power engineering, industrial applications of radioisotope, nuclear instrumentation, radioisotope production, radiation processing, environment and safety, nuclear materials, and the newly created nuclear security and safeguards.

Various study plans are available to provide opportunity for students without prior background in nuclear to jump into the field, and for students with prior background to get a head start on their thesis work. A continuous Master's and Ph.D. study plan is also available to accelerate the graduate time.



## The Collaborations and Standardization

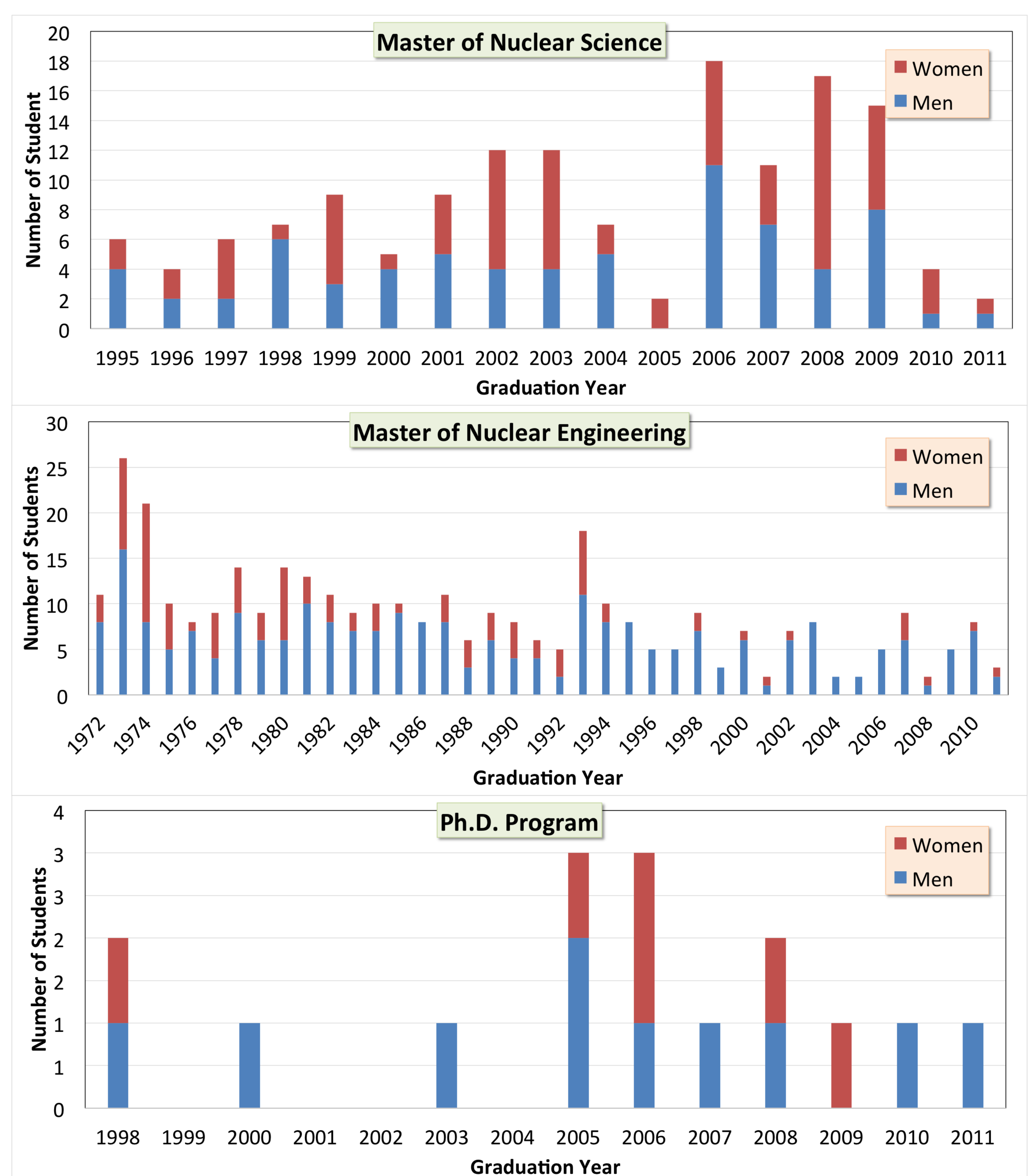
In order to ensure our leading role in nuclear engineering and technology education in Thailand and in the region, the department has actively collaborated with external institutions, both national and international. Our degree programmes are not the only programmes that we provide to the public. Through various MOUs, we also provide customized training courses for

the industries based upon their specific need, such as a diploma course and a certificate course for the Electricity Generating Authority of Thailand, a certificate course for the Office of Atomic Energy for Peace (OAP)

Our programmes are constantly updated according to the international standard (e.g. the IAEA's recommendation) and evaluated by the university board and the Office of the Higher Education Commission.

## The Students and Graduates

Since its establishment, the Department has produced hundreds of graduates among all of our programmes. Depending on the programme, female can make up to 50% of our students. Our graduates either continued their study at higher level or went to work in various types of organizations both in Thailand and abroad, including electricity utility, petroleum, medical, research, government, regulator, as well as training and education.



## The Plan

The Department is currently in the process of establishing a Bachelor's degree programme which is expected to be available to students in the 2016 academic year. The decision to offer this degree programme is based upon the growing demand for nuclear professionals both in Thailand and in the region.

Realizing the quality of education is not only measured by the curriculum content, but also the supporting learning environment. The Department also plan to focus on creating the best learning environment for our students. Internationalization is one of the key areas that the Department as well as the University will be focusing on in the next few years. One of the main driving forces for this strategic move is the opening of the ASEAN Economic Community (AEC) that allows free flow of labour which will create a new market and competition in the region.

