

Programme Specificaitons

Academic Year	(2019-2010) Academic Year
Programme Title	Nuclear Engineering
Award	Bachelor of Engineering (BE)
Programme Code	NE
Degree Awarding Institution	Technological University (Kyaukse)
Associateship, Membership	
Accreditation status and Accreditors	
Qualification Level (Myanmar National Qualification Framework)	Level 6
Degree Awarding Requirements	Student must pass 210 credits and obtain passing score in every subject
Department	Department of Nuclear Technology
Head of Programme	Dr. Min Min Soe
Contact	09-777797950 / 09-765432642 nttukse@gmail.com
Admission Criteria	As described in admission section
Requirements for sitting exam	see in each course specification
Subject Benchmark	N/A
Mode of Attendance	Full Time
Total Credits	210
Minimum Period of Study	6 years
Maximum period of study	18 years
Teaching/Learning Methods	Combination of lecturers, tutorials, practical, coursework, individual and group work, projects, industrail training, presentation, computer laboratory.
Assessment	coursework written examinations, projects, reports, oral presentation, software application
Programme Overview	The most significant nuclear technology application is nuclear power with the greatest efficiency and the least environmental impact. Radioisotope application in different sectors such as industry, agriculture, research and medicine brings many benefits

to the society. Due to the involvement of high energy electromagnetic radiation, safety and security of nuclear and radioactive materials are one of the primary concerns of all nations around the world. Nuclear engineering program will educate potential nuclear engineers for the peaceful uses of nuclear technology along with research skill and soft skill required to be a leader in the society. Nuclear technology programme offers research work in the field of Nuclear Instrumentation, Radiation Processing, Reactor and Control, Radiation detection and measurement, environmental assessment by nuclear technique and Non-destructive testing. Post graduate study programme extends nuclear energy planning and nuclear regulations.

Graduate Competencies

1. Ability to apply Engineering Knowledge
2. Problem Analysis Skill
3. Design/Development Skill
4. Research Skill
5. Ability to apply Modern Tool
6. Ability to apply informed reasoning and Professional Engineering practice in society
7. Ability to understand and evaluate Environment and Sustainability
8. Ability to apply ethical principles
9. Ability to function effectively as Individual and a Team member or leader
10. Communication Skill
11. Ability to apply Project Management and Finance
12. Life Long Learning Skill

Programme Educational Objectives

1. Graduates will engage in the workforce professionally, compete effectively to advance in their employment positions at all possible levels, and succeed as nuclear engineers.
2. Qualified graduates wishing to continue their education will pursue their advanced study locally or internationally.
3. Graduate will contribute to the service of the society as professional members and enable it to reap the benefits of modern technologies.

Graduate Attributes

1. An ability to apply knowledge of mathematics, sciences and engineering.
2. An ability to function on multidisciplinary teams.
3. An ability to identify, formulate and solve complex nuclear engineering problems.
4. An understanding of professional and ethical responsibility in nuclear engineering.
5. An ability to communicate effectively.
6. A recognition of the need for and an ability to engage in life-long learning.
7. A knowledge of contemporary issues and, an ability to design for solving related problems.
8. An ability to use the techniques, skills and modern engineering tools necessary for nuclear engineering practices.

Curriculum

Year I							
Semester I			Semester II				
Code		Title	Credits	Code	Title	Credits	
M	11011	Myanmar	2	M	12011	Myanmar	2
E	11011	English	2.5	E	12011	English	2.5
EM	11002	Engineering Mathematics I	4.5	EM	12002	Engineering Mathematics II	4.5
E.Ch.	11011	Engineering Chemistry	4.5	E.Ch.	12011	Engineering Chemistry	4.5
E.Ph.	11011	Engineering Physics	3.5	E.Ph.	12011	Engineering Physics	3.5
ME	11011	Basic Engineering Drawing I	2	ME	12011	Basic Engineering Drawing I	2
NE	11011	Introduction to Radiation and Radioactivity I	2.5	NE	12011	Introduction to Radiation and Radioactivity II	2.5
						Excursion to Related Research Department	

Year II

Semester I			Semester II		
Code	Title	Credits	Code	Title	Credits
E 21011	English	2.5	E 22011	English	2.5
EM 21003	Engineering Mathematics III	4.5	EM 22004	Engineering Mathematics IV	4.5
ME 21011	Engineering Drawing I	2	ME 22011	Engineering Drawing II	2
NE 21012	Nuclear Physics I	3.5	NE 22012	Nuclear Physics II	3.5
NE 21051	Analytical Methods for Nuclear Engineering I	3	NE 22051	Analytical Methods for Nuclear Engineering II	3
NE 21021	Strength of Materials I	3.5	NE 22021	Strength of Materials II Field Trip to Related Research Department	3.5

Year III

Semester I			Semester II		
Code	Title	Credits	Code	Title	Credits
E 31011	English	2.5	E 32011	English	2.5
EM 31005	Engineering Mathematics V	4.5	EM 32006	Engineering Mathematics VI	4.5
NE 31022	Introduction to Nuclear Concepts for Engineers I	3.5	NE 32022	Introduction to Nuclear Concepts for Engineers II	3.5
NE 31023	Thermal Hydraulics I	3.5	NE 32023	Thermal Hydraulics II	3.5
NE 31031	Electronic Devices and Circuits (Analogue) I	3	NE 32031	Electronic Devices and Circuits (Analogue) II	3
Met 31023	Concepts of Materials Sciences I	2.5	Met 31023	Concepts of Materials Sciences I Field Trip to Related Research Department	2.5

Year IV

Semester I			Semester II		
Code	Title	Credits	Code	Title	Credits
E 41011	English	2.5	E 42011	English	2.5
EM 41007	Engineering Mathematics VII	4.5	EM 42008	Engineering Mathematics VIII	4.5
NE 41013	Radiation Protection and Radiation Shielding I	3	NE 42013	Radiation Protection and Radiation Shielding II	3
NE 41032	Radiation Detection and Measurement I	2.5	NE 42032	Radiation Detection and Measurement II	2.5
NE 41033	Electronic Devices and Circuits (Digital) I	2.5	NE 42033	Electronic Devices and Circuits (Digital) II	2.5
NE 41024	Introduction to Reactor Engineering I	3.5	NE 42024	Introduction to Reactor Engineering II Industrial Training	3.5

Year V

Semester I			Semester II				
Code		Title	Credits	Code	Title	Credits	
NE	51014	Radioactive Waste Management I	3.5	NE	52014	Radioactive Waste Management II	3.5
NE	51034	Radiation Spectrometry and Counting Statics I	2.5	NE	52034	Radiation Spectrometry and Counting Statics II	2.5
NE	51035	Introduction to X-ray Spectroscopy I	3	NE	52035	Introduction to X-ray Spectroscopy II	3
NE	51025	Reactor Engineering I	3.5	NE	52025	Reactor Engineering II	3.5
NE	51026	MathCAD I	2.5	NE	52026	MathCAD II	2.5
					Industrial Training		

Year VI

Semester I			Semester II			
Code		Title	Credits	Code	Title	Credits
NE	61061	Project Management	3.5		Graduation Thesis	9
NE	61062	Humanity and Social Sciences	3.5			
NE	61015	Radiation Security and Safeguard	3.5			
NE	61061	Introduction to Non-Destructive Testing	3.5			
		Industrial Training				