

Table of Curriculum (Graduate Program)

Classification	Subject No.	Code	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
Elective	NQE502	33.502	Principles and Applications of Nuclear Engineering	3:0:3(4)	Fall	⊙
	NQE503	33.503	Radiation Science, Technology and Applications	3:0:3(4)	Spring-Fall	⊙
	NQE510	33.510	Nuclear Reactor Kinetics	3:0:3(4)	Fall	⊙
	NQE512	33.512	Nuclear Reactor Analysis and Design	3:0:3(4)	Spring	⊙
	NQE513	33.513	Neutron/Radiation Transport Theory and Computation	3:0:3(4)	Spring	⊙
	NQE514	33.514	Monte Carlo Methods and Applications	3:0:3(4)	Spring	⊙
	NQE517	33.517	Fast Reactor Design and Analysis	3:0:3(4)	Fall	⊙
	NQE521	33.521	Reactor Thermal -Hydraulics	3:0:3(4)	Fall	⊙
	NQE522	33.522	Nuclear Power Plant Design Project	3:0:3(4)	Spring-Fall	⊙
	NQE523	33.523	Nuclear Reactor Safety	3:0:3(4)	Spring-Fall	⊙
	NQE524	33.524	Simulation of Nuclear and Quantum System	3:0:3(4)	Spring-Fall	⊙
	NQE526	33.526	Quantum and Micro Energy Transport	3:0:3(4)	Fall	⊙
	NQE527	33.527	Gas-cooled Reactors and Hydrogen	3:0:3(4)	Fall	⊙
	NQE528	33.528	Introduction to Risk and Reliability Engineering	3:0:3(4)	Fall	⊙
	NQE529	33.529	Nuclear System Design Course	3:0:3(4)	Spring	⊙
	NQE533	33.533	Nuclear Power Plant Instrumentation and Control Systems	3:1:3(6)	Spring-Fall	⊙
	NQE535	33.535	Human Factors Engineering in Nuclear Power Plants	3:0:3(4)	Spring-Fall	⊙
	NQE537	33.537	Wireless Power Electronics	3:0:3(4)	Spring	⊙
	NQE538	33.538	Smart Grid and Power Electronics	3:0:3(4)	Spring	⊙
	NQE540	33.540	Nuclear Chemical Engineering	3:0:3(4)	Spring	⊙
	NQE541	33.541	Nuclear Waste Management	3:0:3(4)	Fall	⊙
	NQE542	33.542	Chemistry of Actinides	3:0:3(4)	Fall	⊙
	NQE543	33.543	Nuclear Power Plant Water Chemistry	3:0:3(4)	Fall	⊙
	NQE545	33.545	Radiation Chemistry	3:0:3(4)	Spring	⊙
	NQE551	33.551	Nuclear Reactor Metallurgy	3:0:3(4)	Spring-Fall	⊙
	NQE552	33.552	Integrity of Nuclear Structural Materials	3:0:3(4)	Spring	⊙
	NQE553	33.553	Nuclear Fuel Engineering	3:0:3(4)	Spring-Fall	⊙
	NQE555	33.555	Mechanics of Irradiated Material	3:0:3(4)	Spring-Fall	⊙
	NQE561	33.561	Radiation Measurement Systems	3:0:3(4)	Spring-Fall	⊙
	NQE562	33.562	Radiation Imaging Instrumentation	3:0:3(4)	Spring	⊙
	NQE563	33.563	Radiation Biology	3:0:3(4)	Spring-Fall	⊙
	NQE564	33.564	Physics of Medical Imaging	3:0:3(4)	Spring	⊙
	NQE571	33.571	NMR Engineering	3:1:3(6)	Spring-Fall	⊙
NQE572	33.572	Neutron Nano-Characterization	3:0:3(4)	Spring-Fall	⊙	
NQE575	33.575	Nuclear Energy Policy	3:0:3(4)	Fall	⊙	

Classification	Subject No.	Code	Subject Name	Lecture:Lab.: Credit (Homework)	Semester	Remark
	NQE581	33.581	Nuclear Fusion Engineering	3:0:3(4)	Spring	◎
	NQE582	33.582	Applied Plasma Engineering	3:0:3(4)	Fall	◎
	NQE583	33.583	Engineering of Charged Particle Beams	3:0:3(4)	Fall	◎
	NQE584	33.584	Radiation Protection and Regulations	3:0:3(4)	Fall	◎
	NQE585	33.585	Introduction to Nuclear Safety Regulation	3:0:3(4)	Fall	◎
	NQE586	33.586	Safety Regulation for Nuclear Installations	3:0:3(4)	Spring	◎
	NQE587	33.587	Regulation for Nuclear Fuel Cycle and Emergency Preparedness	3:0:3(4)	Winter	◎
	NQE588	33.588	Advanced Design Project I for Nuclear and Quantum Engineering	0:9:3	Spring	◎
	NQE589	33.589	Advanced Design Project II for Nuclear and Quantum Engineering	0:9:3	Fall	◎
	NQE595	33.595	Technical Writing in Nuclear and Quantum Engineering	3:0:3(4)	Fall	◎
	NQE597	33.597	Special Topics in Nuclear and Quantum Engineering III	1:0:1(4)	Spring-Su mmer-Fall	◎
	NQE598	33.598	Special Topics in Nuclear and Quantum Engineering I	2:0:2(4)	Spring-Su mmer-Fall	◎
	NQE599	33.599	Special Topics in Nuclear and Quantum Engineering II	3:0:3(4)	Spring-Su mmer-Fall	◎
	NQE625	33.625	Computational Analysis in Nuclear System	3:0:3(4)	Spring	
	NQE628	33.628	Application of Probabilistic Safety Assessment	3:0:3(4)	Fall	
	NQE631	33.631	Nuclear and Quantum Instrumentation and Control Design	2:3:3(6)	Spring-Fall	
	NQE654	33.654	Materials for Nuclear Fuel Cycle	3:0:3(4)	Fall	New
	NQE656	33.656	Advanced Nuclear Systems and Materials	3:0:3(4)	Spring-Fall	
	NQE675	33.675	Special Topics in Nuclear Energy Policy	3:0:3(4)	Fall	
	NQE726	33.726	Special Topics in Nuclear Safety Analysis	2:3:3(6)	Fall	
Research	NQE960	33.960	M.S. Thesis Research		Spring-Fall	Spring- Fall
	NQE965	33.965	M.S. Independent Research		Spring-Fall	
	NQE966	33.966	M.S. Seminar	1:0:1	Spring-Fall	
	NQE980	33.980	Ph.D. Thesis Research		Spring-Fall	
	NQE986	33.986	Ph.D. Seminar	1:0:1	Spring-Fall	

※ The classification, subject name, and mutual recognition of courses may change depending on the year of attendance.

Substitute Course List

Substitute courses in the department					
Category	Courses currently offered		Courses not currently offered		
	Course no.	Course title	Course no.	Course title	Remark
Graduate Course	NQE521	Reactor Thermal -Hydraulics	NQE520	Nuclear Reactor Engineering	Course Close
"	NQE512	Nuclear Reactor Analysis and Design	NQE536	Compact Nuclear Simulator Operation Experiment	"
"	NQE527	Gas-cooled Reactors and Hydrogen	NQE621	Nuclear Thermal-Hydraulics II	"
"	NQE523	Nuclear Reactor Safety	NQE623	Nuclear Reactor Safety II	"
"	NQE512	Nuclear Reactor Analysis and Design	NQE624	Nuclear Fuel and Core Design	"
"	NQE553	Nuclear Fuel Engineering	NQE653	Nuclear Reactor Fuel Elements	"
"	NQE553	Nuclear Fuel Engineering	NQE651	Radiation Effects on Reactor Materials	"
"	NQE675	Special Topics in Nuclear Energy Policy	NQE743	Special Topics in Nuclear Chemical Engineering	"
"	NQE502	Principles and Applications of Nuclear Engineering	NQE202	Introduction to Nuclear Engineering I	Course New
"	NQE510	Nuclear Reactor Kinetics	NQE511	Nuclear Reactor Kinetics	Course Change
"	NQE510	Nuclear Reactor Kinetics	NQE411	Nuclear Reactor Kinetics	"
"	NQE513	Neutron/Radiation Transport Theory and Computation	NQE513	Neutron and Quantum Particle Transport Theory and Computation	"
"	NQE521	Reactor Thermal -Hydraulics	NQE521	Nuclear Thermal-Hydraulics I	"
"	NQE523	Nuclear Reactor Safety	NQE523	Nuclear Reactor Safety I	"
"	NQE533	Nuclear Power Plant Instrumentation and Control Systems	NQE532	Nuclear and Quantum Instrumentation Systems	"
"	NQE434	Nuclear Power Systems Control	NQE534	Nuclear and Quantum Control Systems	"
"	NQE537	Wireless Power Electronics	NQE537	On-Line Electric Vehicles & Mobile Power Electronics	"
"	NQE625	Computational Analysis in Nuclear System	NQE625	Numerical Methods in Reactor Engineering Analysis	"
"	NQE553	Nuclear Fuel Engineering	NQE653	Nuclear Reactor Fuel Elements	"
"	NQE535	Human Factors Engineering in Nuclear Power Plants	NQE735	Special Topics in Information Engineering for Nuclear and Quantum Applications	"
"	NQE628	Application of Probabilistic Safety Assessment	NQE727	Special Topics in Probabilistic Risk Assessment	"

※Substitute courses may differ according to the effective year of the requirements.