

Abu Dhabi Polytechnic

Higher Diploma in Nuclear Technology

Curriculum and Study Plan

Higher Diploma in Nuclear Technology

Curriculum

Degree Requirements	Total Credit Hours: 97 Credit Hours
AD Poly General Requirements	29
Humanities and Social Science Requirements	6
Program Major Requirements (compulsory)	62
Program Minor Requirements	0
Program Electives	0
General Electives	0

ADPoly General Requirements				29 Credit Hours
Course Code	Course Title	Prerequisite(s)	Corequisite	Credit Hours
MATH100	Precalculus			4
CHEM111	Chemistry I			3
CHEM111P	Chemistry I Lab			1
ICT110	Introduction to Programming & Problem Solving			3
PHYS111	Physics I			3
PHYS111P	Physics I Lab		PHYS111	1
ENGL120	English Skills			3
ENGL121	Academic English I	ENGL120		3
ENGL122	Academic English II	ENGL121		3
ENG113	Engineering Drawing			2
ENG114	Industrial Safety & Professional Ethics			2
ENG120P	Mechanical Workshop			1

Humanities and Social Science Requirements			06 Credit Hours
Course Code	Course Title	Prerequisite(s)	Credit Hours
HUM111	Islamic Culture		3
HUM112	Emirates Society & Culture		3
HUM211	Arabic Communication Skills		3

Program Major Requirements (compulsory)			62 Credit Hours
Course Code	Course Title	Prerequisite(s)	Credit Hours
AES731	Electrical Technology I for Nuclear Plant Operators	MATH100	2
AES731P	Electrical Technology I Lab		1
AES761	Applied Technical Chemistry	CHEM111	3
AES761P	Applied Technical Chemistry Lab		1
AES711	Introduction to Nuclear Technology	PHYS111	3
AES711P	Introduction to Nuclear Technology Lab		1
AES712	Nuclear Reactor Technology	AES711	4
AES722	Mechanical Technology I for NNP Operators	PHYS111	3
AES722P	Mechanical Technology I Lab		1
AES723	Mechanical Technology II for NNP Operators	AES722	2
AES732	Electrical Technology II for Nuclear Plant Operators	AES731	3
AES732P	Electrical Technology II Lab		1
AES741	Thermal Hydraulics for Nuclear Plant Operators	PHYS111	2
AES741P	Thermal Hydraulics for Nuclear Plant Operators Lab		1
AES751	Instrumentation and Control Technology	AES731	3
AES751P	Instrumentation and Control Technology Lab		1
AES771	JST 1 NPP Familiarization and Systems	HOP approval	5
AES772	JST 2 NPP Operation	HOP approval	0
AES773	OJT Specialization Training Part A	HOP approval	6
AES774	OJT Specialization Training Part B	AES773	2
AES786	Materials Science for Nuclear Plant Operators	AES711	2
AES786P	Materials Science for NPP Operators Lab		1
AES781	Nuclear Safety and Regulations	AES712	3
AES782	Rad Measurement and Protection	AES711 & AES731	3
AES782P	Rad Measurement and Protection Lab		1
AES784	Work-Based Learning	HOP approval	3
AES787	Research Methodologies	HOP approval	2
AES788	Capstone Project	AES787	2

Study Plan

1 st Year (Freshman)				
	Course Code	Course Title	Credit Hours	Prerequisite(s)
Semester 1	CHEM111	Chemistry I	3	
	CHEM111P	Chemistry I Lab	1	
	ENG114	Industrial Safety and Professional Ethics	2	
	ENG113	Engineering Drawing	2	
	ENGL120	English Skills	3	
	ICT110	Intro to Programming & Problem Solving	3	
	MATH100	Precalculus	4	
	Total Credit Hours			18
	Course Code	Course Title	Credit Hours	Prerequisite(s)
Semester 2	AES731	Electrical Technology I for Nuclear Plant Operators	2	MATH100
	AES731P	Electrical Technology I Lab	1	
	AES761	Applied Technical Chemistry	3	CHEM111 & CHEM111P
	AES761P	Applied Technical Chemistry Lab	1	
	ENG120P	Mechanical Workshop	1	
	ENGL121	Academic English I	3	ENGL120
	HUMXXX	Humanities Elective 1	3	
	PHYS111	Physics I	3	MATH100
	PHYS111P	Physics I Lab	1	
	Total Credit Hours			18
	Course Code	Course Title	Credit Hours	Prerequisite(s)
Summer	AES711	Introduction to Nuclear Technology	3	PHYS111 & PHYS111P
	AES711P	Introduction to Nuclear Technology Lab	1	
	AES722	Mechanical Technology I for NPP Operators	3	PHYS111 & PHYS111P
	AES722P	Mechanical Technology I for NPP Operators Lab	1	
Total Credit Hours			8	

2 nd Year (Sophomore)				
Semester 1	Course Code	Course Title	Credit Hours	Prerequisite(s)
	AES723	Mechanical Technology II for NPP Operators	2	AES722 & AES722P
	AES732	Electrical Technology II for NPP Operators	3	AES731 & AES731P
	AES732P	Electrical Technology II for NPP Operators Lab	1	
	AES741	Thermal Hydraulics for NPP Operators	2	PHYS111 & PHYS111P
	AES741P	Thermal Hydraulics for NPP Operators Lab	1	
	AES751	Instrumentation and Control Technology	3	AES731 & AES731P
	AES751P	Instrumentation and Control Technology Lab	1	
Total Credit Hours			13	
Semester 2	Course Code	Course Title	Credit Hours	Prerequisite(s)
	AES712	Nuclear Reactor Technology	4	AES711 & AES7111P
	AES786	Materials Science for NPP Operators	2	AES711 & AES7111P
	AES786P	Materials Science for NPP Operators Lab	1	
	ENGL122	Academic English II	3	ENGL121
	HUMXXX	Humanities Elective 2	3	
Total Credit Hours			13	
Summer	Course Code	Course Title	Credit Hours	Prerequisite(s)
	AES781	Nuclear Safety and Regulations	3	AES712
	AES782	Rad Measurement and Protection	3	AES751, AES751P, AES711 & AES711P
	AES782P	Rad Measurement and Protection Lab	1	
Total Credit Hours			7	

3 rd Year (Junior)				
Semester 1	Course Code	Course Title	Credit Hours	Prerequisite(s)
	AES771	JST 1 NPP Familiarization and Systems	5	HOP approval
	AES772	JST 2 NPP Operation	0	HOP approval
	AES784	Work-Based Learning	3	HOP approval
	AES787	Research Methodologies	2	HOP approval
Total Credit Hours			10	
Semester 2	Course Code	Course Title	Credit Hours	Prerequisite(s)
	AES773	OJT Specialization Training Part A	6	AES772
Total Credit Hours			6	
Summer	Course Code	Course Title	Credit Hours	Prerequisite(s)
	AES774	OJT Specialization Training Part B	2	AES773
	AES788	Capstone Project	2	AES787
	Total Credit Hours			4

Advanced Energy Engineering Technology Department Teaching Staff

Faculty Name	Position	Highest Degree	Conferring Institution
Anthony Hechanova	Professor, Department Head	Ph.D.	Massachusetts Institute of Technology, USA
Hong Kim	Principal Instructor	Ph.D.	University of Iowa, USA
Evgeny Stankovskiy	Assistant Professor	Ph.D.	University of Nevada, Las Vegas, USA
Hamza Ayyash	Instructor	Master	University of Paris, Sud, France
Hanni Moussa	Instructor	Bachelor	Alexandria University, Egypt
Tinashe Dhliwayo	Instructor	Master	North Carolina State University, USA
Malek Albadarneh	Teaching Assistant	Master	University of Birmingham, UK
Muhammad Imron	Teaching Assistant	Master	Korea Advanced Institute of Science and Technology, Korea