	WORKING DRAFT REVISION 15	REC	QUIREMEN	ITS FOR INT	ERNATION	AL NUCLEA	R MANAGE	EMENT PRO	OGRAMME	INMP
		Pro	gram 1	Theme n	* 1. LIC	ENSED	NUCLEA	AR FACII	ITIES	
>	Competency Area (CA)	Track	A: Nucle	arizing Ma	nagers*	Track B	: Manage	rizing Eng	gineers*	
ASPECT GROUPS	Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements. Required to be integrated into an									
TG	International Nuclear Management Programme.	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours	
ROU		tus	Ō) th	SZ	tus	Ō	oth	sur	
PS	Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements									
÷	3.1 Nuclear law	R	С	W	30	R	С	W	30	
EXTERNAL ENVIRONMENT	3.2International nuclear organizations	0	С	I	15	0	С	I	15	
ERN	3.3 International nuclear security and safeguards programmes	R	В	W	30	R	С	W	30	
AL E	3.4 Nuclear licensing, licensing basis, and regulatory processes	R	В	W	30	R	В	W	30	
N N	3.5 Global nuclear energy sector, energy distribution systems etc.	0	С	l .	15	0	С	1	15	
RON	3.6 National nuclear technology policy and planning	R R	С		15	R	С	-	15 15	
NE NE	3.7 International regulation of trade or transport of nuclear goods/materials 3.8 International nuclear standards	R	В	W	15 30	R R	В	W	30	
\exists	3.9 Intellectual property (rights and management)	0	С	I	15	0	С	1	15	
	4.1 Nuclear plant systems (technology aspects)	R	С	W	30	Q	С	W	30	
	4.2 Nuclear plant design principles (technology aspects)	R	С	I	15	Q	С	I	15	
	4.3 Nuclear facility life cycle issues and ageing management	R	В	W	30	R	В	W	30	
	4.4 Nuclear asset management (plant life management)	R	С	I	15	R	С	I	15	
	4.5 Nuclear waste management and disposal	R	С	l .	15	R	С	1	15	
	4.6 Nuclear plant decommissioning, environmental remediation 4.7 Nuclear fuel cycle (technology aspects and issues)	R R	С	l l	15 15	R Q	C C	-	15 15	
	4.8 Nuclear reactivity theory, reactivity management	R	С	l l	15	Q	С		15	
	4.9 Nuclear environmental protection, monitoring and compliance	R	С	i.	15	R	С	i.	15	
2. T	4.10 Nuclear safety principles and safety analysis	R	В	ı	15	Q	В	I	15	
	4.11 Radiation safety and management	R	С	I	15	Q	С	I	15	
NOF	4.12 Nuclear medicine (imaging, pharmacology, etc.)	0	С	l	15	0	С	I	15	
.0G\	4.13 Nuclear agriculture applications (e.g. pest control)	0	С	I	15	0	С	I	15	
	4.14 Nuclear food-irradiation	0	С	l .	15	0	С	1	15	
	4.15 Industrial applications of nuclear science	0	C C	l I	15 15	0	C C	l	15 15	
	4.16 Applications of nuclear isotopes (hydrology, forensics, etc) 4.17 Systems engineering concepts applied to nuclear energy	R	С	ı	15	R	С		15	
	4.18 Nuclear facility maintenance processes and programmes	R	В	w	30	R	В	W	30	
	4.19 Nuclear operations and production management	R	В	W	30	R	В	W	30	
	4.20 Nuclear equipment reliability program management	R	С	I	15	R	С	I	15	
	4.21 Information technology and information systems in nuclear	R	С	I	15	R	С	I	15	
	4.22 Nuclear R&D and innovation management	0	С	I	15	0	С	I	15	
	5.1 Nuclear project management, engineering management	R	В	W	30	R	В	W	30	
	5.2 Management of labour relations in nuclear 5.3 Nuclear event management, emergency planning and response	Q R	B B	H H	45 45	R R	B B	Н	45 45	
	5.4 Human resources development and management in nuclear	Q	В	W	30	R	В	W	30	
	5.5 Systematic approach to training in nuclear organizations	R	C	W	30	R	С	W	30	
<u></u>	5.6 Planning and management systems in nuclear organizations	R	С	W	30	R	С	W	30	
MAN	5.7 Project planning and management	R	С	I	15	R	С	I	15	
IAGE	5.8 Nuclear safety management, risk-informed decision-making	R	В	W	30	R	В	W	30	
MANAGEMENT	5.9 Nuclear quality assurance programmes	R	В	W	30	R	В	W	30	
크	5.10 Organizational behaviour in nuclear organizations	Q	С	W	30	R	С	W	30	
	5.11 Nuclear procurement and supplier management 5.12 Business law and contract management	Q Q	В	W	30	R R	B C	W	30 30	
	5.13 Nuclear site security programme management	R	В	H	45	R	В	H	45	
	5.14 Cultural awareness, inter-cultural communication	R	С	ı	15	R	С	ı	15	
	5.15 Organizational culture issues in nuclear organizations	Q	С	I	15	R	С	I	15	
	5.16 Operating Experience	R	В	Н	45	R	В	I	15	
	6.1 Nuclear ethics and values	R	В	I	15	R	В	ı	15	
4. [62 Nuclear corporate governance and oversight	R	С	W	30	R	С	W	30	
EAD	6.3 Leadership and communication in nuclear	Q	В	W	30	R	В	W	30	
LEADERSHIP	6.4 Stakeholder communication and public relations in nuclear 6.5 Change management in nuclear organizations	R Q	В		15 15	R R	В		15 15	
Ŧ	6.6 Knowledge management (i.e. NKM graduate course)	R	В	W	30	R	В	W	30	
	6.7 Strategic issues and planning (nuclear case studies)	R	В	Н	45	R	В	Н	45	

	WORKING DRAFT REVISION 15	REC	QUIREMEN [*]	TS FOR INTE	ERNATION	AL NUCLEA	R MANAG	EMENT PRO	OGRAMME	INMP
		Pro	gram T	heme n	* 1. LIC	ENSED	NUCLEA	AR FACIL	ITIES	
ASPECT	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements. Required to be integrated into an			ırizing Ma				erizing Eng		
CT GROUPS	International Nuclear Management Programme. Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours	
5.	7.1 Cost accounting and cost control in nuclear organizations	Q	В	W	30	R	В	Н	45	
AD	7.2 Financial management and accounting in nuclear organizations	Q	В	w	30	R	В	w	30	
ADMINISTRATIVE	7.3 Nuclear information and records management	R	С	1	15	R	C	1	15	-
N S	7.4 Performance monitoring and management in nuclear	R	В	w	30	R	В	w	30	
₹				VV				VV		
	7.5 Engineering economics, cost estimating	Q	В	ļi .	15	R	В	ļ!	15	
Æ	7.6 Analytical decision-making and safety(decision science in nuclear)	Q	В	W	30	R	В	W	30	
	Practicum, project, internship									
	8.1 IAEA Nuclear Energy Management School (2-3 weeks)	0	В	W	30	0	В	W	30	
6. PR	8.2 International nuclear leadership course (i.e., 1-week NKM, WNU or INLEP)	0	В	I	15	0	В	I	15	
Ç.	8.3 WNU Summer Institute	0	В	Н	45	0	В	Н	45	
	8.4 Annual INMP Student Conference (research proposal and results)	R	В	ı	15	R	В	ı	15	
(C	8.5 Master's Level Thesis or Individual Research Project	R	В	Н	45	R	В	Н	45	
	8.6 Work term or internship (e.g. coop study at/with NO)	R	В	Н	45	R	В	Н	45	
	8.7 Team project	R	В	W	30	R	В	W	30	
	INDICATIVE TOTAL OF HOURS				1635				1620	
	LIGENISED AUTOLEAD FACULTIES 6									
	LICENSED NUCLEAR FACILITIES: Summaries									
	LICENSED NUCLEAR FACILITIES: Summaries ASPECT GROUPS for each competency area		luclearizir	ng Manag	ers*	Ma	magerizir	ng Engine	ers*	
	ASPECT GROUPS for each competency area			ng Manag	ers*			ng Enginee	ers*	
F	ASPECT GROUPS for each competency area Options	Sum (h) 195	Total (h)	ng Manag	ers*	Ma Sum (h)	nagerizir Total (h)	ng Enginee	ers*	
E T	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal)	Sum (h)	Total (h)	ng Manag	ers*	Sum (h)	Total (h)	ng Enginee	ers*	
E T M	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related	Sum (h) 195	Total (h) 1635	ng Manag	ers*	Sum (h) 195	Total (h)	ng Enginee	ers*	
Е Т М	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management	Sum (h) 195 390	Total (h) 1635 1635	ng Manag	ers*	Sum (h) 195 390	Total (h) 1620 1620	ng Enginee	ers*	
E T M L	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership	Sum (h) 195 390 495	Total (h) 1635 1635	ng Manag	ers*	Sum (h) 195 390 465	Total (h) 1620 1620 1620	ng Enginee	ers*	
E T M L A	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management	Sum (h) 195 390 495 180	Total (h) 1635 1635 1635 1635	ng Manag	ers*	Sum (h) 195 390 465 180	Total (h) 1620 1620 1620 1620	ng Enginee	ers*	
E T M L A	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship	Sum (h) 195 390 495 180 150	Total (h) 1635 1635 1635 1635 1635	ng Manag	ers*	Sum (h) 195 390 465 180 165	Total (h) 1620 1620 1620 1620 1620	ng Enginee	ers*	
E T M L A	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area	Sum (h) 195 390 495 180 150 225 1635 Options	Total (h) 1635 1635 1635 1635 1635 1635 1635 3 Sum (h)	Total (h)	ers*	Sum (h) 195 390 465 180 165 225 1620 Options	Total (h) 1620 1620 1620 1620 1620 1620 1620 Sum (h)	Total (h)	ers*	
E T M L A	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme	sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635	ers*	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 Sum (h) 225	Total (h) 1620	ers*	
E T M L A	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement)	Sum (h) 195 390 495 180 150 225 1635 Options	Total (h) 1635 1635 1635 1635 1635 1635 1635 3 Sum (h)	Total (h)	ers*	Sum (h) 195 390 465 180 165 225 1620 Options	Total (h) 1620 1620 1620 1620 1620 1620 1620 Sum (h)	Total (h)	ers*	
E T M L A	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area 0= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme	sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635	ers*	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620	ers*	
L A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme	sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635		Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620		
A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme Total amount of hours (Control TYPE of approach for each competency area (CA)	sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 Sum (h)	Total (h)	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h)	Total (h)	
A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme TYPE of approach for each competency area (CA) B=Both, combining elements of conceptual and practical levels	sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 Sum (h) 1020	Total (h) 1635	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h) 975	Total (h) 1620	
L A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme Total amount of hours (Control TYPE of approach for each competency area (CA)	Sum (h) 195 390 495 180 150 225 0 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 Sum (h)	Total (h)	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h)	Total (h)	
A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme TYPE of approach for each competency area (CA) B=Both, combining elements of conceptual and practical levels C=Conceptual level, focus on theory, processes, and awareness of methodologies	Sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 Sum (h) 1020 615	Total (h) 1635 1635	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h) 975 645	Total (h) 1620	
A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area D= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme TYPE of approach for each competency area (CA) B=Both, combining elements of conceptual and practical levels C=Conceptual level, focus on theory, processes, and awareness of methodologies S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application)	Sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 1635 Sum (h) 1020 615 0	Total (h) 1635 1635	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h) 975 645 0	Total (h) 1620 1620	Total (h)
L A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme TYPE of approach for each competency area (CA) B=Both, combining elements of conceptual and practical levels C=Conceptual level, focus on theory, processes, and awareness of methodologies S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application)	Sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 1635 Sum (h) 1020 615 0	Total (h) 1635 1635	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h) 975 645 0	Total (h) 1620 1620	Total (h) 1620
L A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme Type of approach for each competency area (CA) B=Both, combining elements of conceptual and practical levels C=Conceptual level, focus on theory, processes, and awareness of methodologies S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application) Total amount of hours (Control DEPTH of coverage for each Competency area	Sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 1635 Sum (h) 1020 615 0	Total (h) 1635 1635 Sum (h)	Sum (h) 195 390 465 180 165 225 1620 Options O	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 Sum (h) 975 645 0	Total (h) 1620 1620 Sum (h)	
L A P	ASPECT GROUPS for each competency area Options External environment (International, Institutional, politic, legal) Technology related Management Leadership Administrative (decision making) Practicum, project, internship Total amount of hours (Control STATUS of competency area O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme TYPE of approach for each competency area (CA) B=Both, combining elements of conceptual and practical levels C=Conceptual level, focus on theory, processes, and awareness of methodologies S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application) Total amount of hours (Control Total amount of hours (Sum (h) 195 390 495 180 150 225 1635 Options O	Total (h) 1635 1635 1635 1635 1635 1635 1635 1635	Total (h) 1635 1635 1635 1635 Sum (h) 1020 615 0 1635 Options	Total (h) 1635 1635 1635 Sum (h)	Sum (h) 195 390 465 180 165 225 1620 Options O Q R Total (h) 1635	Total (h) 1620 1620 1620 1620 1620 1620 1620 1620	Total (h) 1620 1620 1620 Sum (h) 975 645 0 Options	Total (h) 1620 1620 Sum (h) 510	1620

LEGEND

Numbering: The numbering for each competency areas refer to Appendix B

Aspect Groups (AG)

M: Management | A: Administrative | P: Practicum | L: leadership | E: environment | T: technology

Weighting Factors

FACTOR STATUS:

Options: R: Required | or | O: optional | or | Q: qualified

FACTOR TYPE:

Options: C: Conceptual | or | S: skill-oriented, | or | B: Both

FACTOR DEPTH:

		RFC	DUIREMENT	TS FOR INT	ERNATIONA	AL NUCLEA	R MANAGE	EMENT PR	OGRAMME	INMP	
	WORKING DRAFT REVISION 15	PROGRAM THEME N*2. DESIGN/BUILD PROJECTS (NEW									
		PRO	GRAM 1					ROJECTS	S (NEW		
				В	UILD OF						
	Competency Area (CA)	Track	A: Nuclea	rizing Ma	anagers*	Track B	: Manage	rizing En	gineers*		
ASF	Competency areas are both general but nuclear focused AND nuclear specific topic										
)EC	encompassing a set of competency elements Required to be integrated into an										
ASPECT GROUPS	International Nuclear Management Programme.	St	Ţ	D	ΙĘ	St	7	D	포		
9	Notes to the form of the second secon	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours		
PS	Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regguirements	S		<u> </u>	\ \odots	S		5	ν,		
	, ,,										
1. E	3.1 Nuclear law	R	С	W	30	R	С	W	30		
XTE	3.2International nuclear organizations	0	С	I	15	0	С	I	15		
EXTERNAL	3.3 International nuclear security and safeguards programmes	R	С	I	15	R	С	l	15		
Ϋ́E	3.4 Nuclear licensing, licensing basis, and regulatory processes	R	В	Н	45	R	В	Н	45		
N ≤	3.5 Global nuclear energy sector, energy distribution systems etc.	0	С	I	15	0	С	I	15		
RO	3.6 National nuclear technology policy and planning	R	С	W	30	R	С	W	30		
ENVIRONMENT	3.7 International regulation of trade or transport of nuclear goods/materials	R	В	H	45	R	В	H	45		
Z	3.8 International nuclear standards	R	В	Η .	45	R	В	Η .	45		
	3.9 Intellectual property (rights and management)	Q	В	1	15	R	В	147	15		
	4.1 Nuclear plant systems (technology aspects)	R	С	W	30	Q	C	W	30		
	4.2 Nuclear plant design principles (technology aspects)	R	C C		15	Q	С		15		
	4.3 Nuclear facility life cycle issues and ageing management	R		!	15	R	С		15		
	4.4 Nuclear asset management (plant life management)	0	С	!	15	0	С		15		
	4.5 Nuclear waste management and disposal	R	С		15	R	С		15		
	4.6 Nuclear plant decommissioning, environmental remediation	R	C	1	15	R	С		15		
	4.7 Nuclear fuel cycle (technology aspects and issues)	R	С	-	15	Q	С		15 15		
	Nuclear reactivity theory, reactivity management Success and compliance	R R	С	1	15 15	Q R	С		15		
2.		R	В	1	15	Q	В		15		
TECH	4.10 Nuclear safety principles and safety analysis 4.11 Radiation safety and management	R R	С	1	15	Q Q	С		15		
_	4.11 Nuclear medicine (imaging, pharmacology, etc.)	0	С	<u>'</u>	15	0	С	<u>'</u>	15		
OLOG'	4.13 Nuclear agriculture applications (e.g. pest control)	0	С	<u>'</u>	15	0	С	'	15		
ĠΥ	4.14 Nuclear food-irradiation	0	С	<u>'</u>	15	0	C	'	15		
	4.15 Industrial applications of nuclear science	0	С	<u>'</u>	15	0	С	'	15		
	4.16 Applications of nuclear isotopes (hydrology, forensics, etc)	0	С	i i	15	0	С	<u>'</u>	15		
	4.17 Systems engineering concepts applied to nuclear energy	R	В	H	45	Q	В	'	45		
	4.18 Nuclear facility maintenance processes and programmes	0	С	1	15	0	C		15		
	4.19 Nuclear operations and production management	0	С	i.	15	0	C		15		
	4.20 Nuclear equipment reliability program management	0	С	i	15	0	С	· I	15		
	4.21 Information technology and information systems in nuclear	R	С	i	15	R	С	i i	15		
	4.22 Nuclear R&D and innovation management	0	С	i	15	0	С		15		
	5.1 Nuclear project management, engineering management	R	В	H	45	R	В	н	45		
	5.2 Management of labour relations in nuclear	Q	В	Н	45	R	В	Н	45		
	5.3 Nuclear event management, emergency planning and response	0	С	1	15	0	С	ı	15		
	5.4 Human resources development and management in nuclear	R	В	W	30	R	В	W	30		
	5.5 Systematic approach to training in nuclear organizations	R	С	W	30	R	С	W	30		
·ω	5.6 Planning and management systems in nuclear organizations	R	С	W	30	R	С	Н	45		
3. MANAGEMENT	5.7 Project planning and management	R	В	Н	45	R	В	Н	45		
VAC	5.8 Nuclear safety management, risk-informed decision-making	R	В	W	30	R	В	W	30		
θEM	5.9 Nuclear quality assurance programmes	R	В	Н	45	R	В	Н	45		
EZ	5.10 Organizational behaviour in nuclear organizations	Q	С	W	30	R	С	Н	45		
	5.11 Nuclear procurement and supplier management	Q	В	Н	45	R	В	Н	45		
	5.12 Business law and contract management	Q	В	Н	45	R	В	Н	45		
	5.13 Nuclear site security programme management	0	С	I	15	0	С	I	15		
	5.14 Cultural awareness, inter-cultural communication	R	С	ı	15	R	С	I	15		
	5.15 Organizational culture issues in nuclear organizations	Q	С	ı	15	R	С	I	15		
	5.16 Operating Experience	R	В	Н	45	R	В	Н	45		

	WORKING DRAFT REVISION 15	REC	UIREMENT	TS FOR INT	ERNATION	AL NUCLEA	R MANAGI	EMENT PRO	OGRAMME	INMP
		PRO	GRAM 1	ГНЕМЕ	N*2. DE	SIGN/B	UILD PF	ROJECTS	(NEW	
				В	UILD OF	R REFUE	RB.)			
ASPECT	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements Required to be integrated into an		A: Nuclea	irizing Ma			: Manage	erizing Eng		
ASPECT GROUPS	International Nuclear Management Programme. Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours	
	6.1 Nuclear ethics and values	R	В	I	15	R	В	I	15	
4.	62 Nuclear corporate governance and oversight	R	С	I	15	R	С	I	15	
	6.3 Leadership and communication in nuclear	Q	В	W	30	R	В	W	30	
LEADERSHIP	6.4 Stakeholder communication and public relations in nuclear	R	В	ı	15	R	В	I	15	
RSH	6.5 Change management in nuclear organizations	R	В	Н	45	R	В	Н	45	
P	6.6 Knowledge management (i.e. NKM graduate course)	R	В	W	30	R	В	W	30	
	6.7 Strategic issues and planning (nuclear case studies)	R	В	Н	45	R	В	Н	45	
	7.1 Cost accounting and cost control in nuclear organizations	Q	В	Н	45	R	В	Н	45	
AD	7.2 Financial management and accounting in nuclear organizations	Q	В	W	30	R	В	W	30	
ADMINISTRAT	7.3 Nuclear information and records management	R	С	I	15	R	С	I	15	
IST	7.4 Performance monitoring and management in nuclear	R	В	W	30	R	В	W	30	
RAT	7.5 Engineering economics, cost estimating	Q	В	ı	15	R	В	ı	15	
	7.6 Analytical decision-making and safety(decision science in nuclear)	Q	В	w	30	R	В	W	30	
	Practicum, project, internship									
	8.1 IAEA Nuclear Energy Management School (2-3 weeks)	0	В	w	30	0	В	W	30	
6. PR	8.2 International nuclear leadership course (i.e., 1-week NKM, WNU or INLEP)	0	В	I	15	0	В	I	15	
AC.	8.3 WNU Summer Institute	0	В	Н	45	0	В	Н	45	
TICL	8.4 Annual INMP Student Conference (research proposal and results)	R	В	I	15	R	В	I	15	
Ξ	8.5 Master's Level Thesis or Individual Research Project	R	В	Н	45	R	В	Н	45	
	8.6 Work term or internship (e.g. coop study at/with NO)	R	В	Н	45	R	В	Н	45	
	8.7 Team project	R	В	W	30	R	В	W	30	
	DESIGN/ BUILD PROJECTS : Summaries				1740				1770	
	ASPECT GROUPS for each competency area	N	uclearizir	ng Manag	ers*	Ma	nagerizin	g Engine	ers*	
	Options	Sum (h)	Total (h)			Sum (h)	Total (h)			
E	External environment (International, Institutional, politic, legal)	255	1740			255	1770			
T	Technology related	375	1740			375	1770			
M	Management	525 195	1740 1740			555 195	1770 1770			
A	Leadership Administrative (decision making)	165	1740			165	1770			
D	Practicum, project, internship	225	1740			225	1770			
		1740	2. 10			1770				
	STATUS of competency area		Sum (h)	Total (h)		Options	Sum (h)	Total (h)		
	O = Optional for the specified programme theme	0	300	1740		0	300	1770		
	Q= Qualified (assumes most students will have this as pre-requisite training or	Q	345	1740		Q	150	1770		
	experience otherwise must make up as it is a requirement) R= Required (core) for the specified programme theme	R	1095	1740		R	1320	1770		
	Total amount of hours (Control)		1740				1770			
	TYPE of approach for each competency area (CA)		Options	Sum (h)	Total (h)		Options	Sum (h)	Total (h)	
	B=Both, combining elements of conceptual and practical levels		В	600	1740		В	1140	1770	
	C=Conceptual level, focus on theory, processes, and awareness of methodologies		С	0	1740		С	630	1770	
	S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application)		S	1140	1740		S	0	1770	
	Total amount of hours (Control)			1740				1770		
	DEPTH of coverage for each Competency area			Options		Total (h)		Options	Sum (h)	Total (h)
	I = Introductory (15h)			I	525	1740		I	525	1770
	W= Well Grounded general knowledge (30h)			W	450	1740		W	390	1770
	H= Higher level of coverage (45h) Total amount of hours (Control)			Н	765 1740	1740		Н	855 1770	1770
	Total amount of nours (Control)				1,40				1,70	

LEGEND

Numbering: The numbering for each competency areas refer to Appendix B

Aspect Groups (AG)

M: Management | A: Administrative | P: Practicum | L: leadership | E: environment | T: technology

Weighting Factors

	WORKING DRAFT REVISION 15	REQUIREMENTS FOR INTERNATIONAL NUCLEAR MANAGEMENT PROGRAMME IN								INMP
		PROGRAM THEME N*2. DESIGN/BUILD PROJECTS (NEW								
		BUILD OR REFURB.)								
ASPECT	Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements Required to be integrated into an	Track A	\: Nuclea	rizing Ma	nagers*	Track B	: Manage	rizing Eng	gineers*	
GROUPS	International Nuclear Management Programme. Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements	Hours Depth Type Hours Hours Type Status Status							Hours	

FACTOR STATUS

Options: R: Required | or | O: optional | or | Q: qualified FACTOR TYPE:

Options: C: Conceptual | or | S: skill-oriented, | or | B: Both FACTOR DEPTH:

		DEC	N LIDEMENT	C FOR INT	EDNIATION	AL NUICLEA	D MANIACI	ENAENT DDC	CBANANE
	WORKING DRAFT REVISION 15		UIREMENT						
			ROGRAI						
ASPECT GROUPS	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements Required to be integrated into an International Nuclear Management Programme.		A: Nuclea				: Manage		
3ROUPS	<u>Notes:</u> Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements		Туре	Depth	Hours	Status	Туре	Depth	Hours
1. E		R	С	I	15	R	С	I	15
EXTERNAL ENVIRONMENT		0	С	I	15	0	С	I	15
RN,	, 5 1 5	R	С	I	15	R	С	I	15
AL E	3.4 Nuclear licensing, licensing basis, and regulatory processes	R	В	W	30	R	В	W	30
N N	3.5 Global nuclear energy sector, energy distribution systems etc.	0	С	I	15	0	С	I	15
RO	5,1 , 1 5	R	С	I	15	R	С	I	15
Z	3.7 International regulation of trade or transport of nuclear goods/materials	0	С	I	15	0	С	I	15
E	3.8 International nuclear standards	R	В	Н	45	R	В	Н	45
	3.9 Intellectual property (rights and management)	R	В	W	30	R	В	W	30
		R	С	W	30	Q	С	W	30
	1 01 1 (0, 1)	R	С	I	15	Q	С	I	15
		R	С	I	15	R	С	I	15
		0	С	I	15	0	С	I	15
		R	С	I	15	R	С	I	15
	3,	R	С	I	15	R	С	I	15
		R	С	I	15	Q	С	I	15
		R	С	I	15	Q	С	I	15
2.		R	С	I	15	R	С	I	15
	, , ,	R	В	W	30	Q	В	W	30
TECHNOLOG	4.11 Radiation safety and management	R	С	I	15	Q	С	I	15
010		0	С	I	15	0	С	I	15
OGY		0	С	I	15	0	С	I	15
		0	С	1	15	0	С	1	15
		0	С	1	15	0	С	I	15
	- FF	0	С	I	15	0	С	I	15
	, 5 5 1 11	R		H	45	R	В	Н .	45
		0	С		15	0	С		15
	4.19 Nuclear operations and production management	0	С	1	15	0	С	1	15
	4.20 Nuclear equipment reliability program management	0	С	1	15 15	0	С	1	15
	,	R		1		R	D		15
	3	R		Н	45	R	В	Н	45
	1 7 0 7 0 0	R	С	I U	15	R	С	l L	15
		Q O	В	Н	45 15	R O	В		45 15
	2 , 2 , 1 2 1	R	В	1 1/4/	30	R	В		30
		R	С	W	15	R	С		15
ω	, 11	R	С	W	30	R	C	W	30
<u> </u>	<u> </u>	R	С	ı	15	R	C	ı	15
Ä	, , , ,	R	В	W	30	R	В	W	30
3. MANAGEMENT	, , , ,	R	С	W	30	R	С	W	30
MEN	1 , 1 5	Q	С	W	30	R	C		45
≒		Q	С	1	15	R	C		15
		Q	С	W	30	R	С	W	30
		0	С	ı	15	0	С	ı	
	71 0	R	С		15	R	С		15 15
	,	Q	С	ı	15	R	C		15
		R	В	H	45	R	В	H	45
	2.20 Operating Experience		_		10	,,			,5

			LUDES .	FC F. 6.2.	FDALATION -	A I A II I A	D 1444		26044
	WORKING DRAFT REVISION 15	REQ	UIREMEN	S FOR INTI	ERNATION	AL NUCLEA	AR MANAGI	EMENT PRO	OGRAMME
		Р	ROGRA	M THEN	ЛЕ N* 3	. NUCLI	EAR TEC	CHNOLC)GY
	Competency Area (CA)	Track /	A: Nuclea	rizing Ma	nagers*	Track B	: Manage	erizing En	gineers*
ASF	Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a								
DEC.	set of competency elements Required to be integrated into an International Nuclear Management								
ASPECT GROUPS	Programme.	St	J	D	Ī	St	J	P	Ī
ROL		Status	Туре	Depth	Hours	Status	Туре	Depth	Hours
JPS	<u>Notes:</u> Numbering for eachCome petency areas, corresponds to Appendix B detailed description of	S		5	S	S	"	5	S
	INM Regquirements								
	6.1 Nuclear ethics and values	R	В	I	15	R	В	I	15
4.	62 Nuclear corporate governance and oversight	R	С	I	15	R	С	I	15
LΕγ	6.3 Leadership and communication in nuclear	Q	В	W	30	R	В	W	30
LEADERSHIP	6.4 Stakeholder communication and public relations in nuclear	R	В	L	15	R	В	I	15
RSH	6.5 Change management in nuclear organizations	R	С	I	15	R	С	I	15
₽	6.6 Knowledge management (i.e. NKM graduate course)	R	В	W	30	R	В	W	30
	6.7 Strategic issues and planning (nuclear case studies)	R	В	Н	45	R	В	Н	45
	7.1 Cost accounting and cost control in nuclear organizations	Q	В	W	30	R	В	Н	45
AD	7.2 Financial management and accounting in nuclear organizations	Q	В	W	30	R	В	W	30
ADMINISTRATIVE	7.3 Nuclear information and records management	R	С	I	15	R	С	I	15
ISTF	7.4 Performance monitoring and management in nuclear	R	В	W	30	R	В	W	30
ΑŢ	7.5 Engineering economics, cost estimating	Q	В	I	15	R	В	I	15
\leq	7.6 Analytical decision-making and safety(decision science in nuclear)	Q	В	W	30	R	В	W	30
	Practicum, project, internship								
	8.1 IAEA Nuclear Energy Management School (2-3 weeks)	0	В	W	30	0	В	W	30
6. PR	8.2 International nuclear leadership course (i.e., 1-week NKM, WNU or INLEP)	0	В	I	15	0	В	I	15
ACT	8.3 WNU Summer Institute	0	В	Н	45	0	В	Н	45
	8.4 Annual INMP Student Conference (research proposal and results)	R	В	I	15	R	В	I	15
	8.5 Master's Level Thesis or Individual Research Project	R	В	H	45	R	В	H	45
	8.6 Work term or internship (e.g. coop study at/with NO) 8.7 Team project	R R	В	H W	45 30	R R	В	H W	45 30
	INDICATIVE TOTAL OF HOURS	IX.	Б	VV	1545	IX.	l l	VV	1575
	Nuclear technology development: Summaries								
	ASPECT GROUPS for each competency area	N	uclearizir	ng Manag	ers*	Ma	anagerizir	g Engine	ers*
	Options		Total (h)	ig iviarias	C13	Sum (h)	Total (h)	E LIIBITIC	
E	External environment (International, Institutional, politic, legal)	195	1545			195	1575		
	Technology related	420	1545			420	1575		
M	Management	390	1545			405	1575		
L	Leadership Administrative (decision making)	165 150	1545 1545			165 165	1575 1575		
A	Authinistrative (decision making)	130	1343			103	13/3		
Р	Practicum, project, internship	225	1545			225	1575		
		1545				1575			
	STATUS of competency area		Sum (h)	Total (h)		Options	Sum (h)	Total (h)	
	C Optional for the specifica programme theme	0	300	1545		0	300	1575	
	Q= Qualified (assumes most students will have this as pre-requisite training or experience otherwise	Q	270	1545		Q	120	1575	
l .	must make up as it is a requirement)								
	R= Required (core) for the specified programme theme Total amount of hours (Control)	R	975	1545		R	1155	1575	
	TYPE of approach for each competency area (CA)		1545 Options	Sum (h)	Total (h)		1575 Options	Sum (h)	Total (h)
	B=Both, combining elements of conceptual and practical levels		В	870	1545		B	885	1575
	C=Conceptual level, focus on theory, processes, and awareness of methodologies		С	675	1545		С	690	1575
	S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application)		S	0	1545		S	0	1575
	Total amount of hours (Control)			1545				1575	
	DEPTH of coverage for each Competency area			Options	Sum (h)	Total (h)		Options	Sum (h)
	I = Introductory (15h) W= Well Grounded general knowledge (30h)			W	600 540	1545 1545		W	600 480
	H= Higher level of coverage (45h)			Н	405	1545		Н	495
	Total amount of hours (Control)				1545				1575
LEGENI									

LEGEND

Numbering: The numbering for each competency areas refer to Appendix B

Aspect Groups (AG)

M: Management | A: Administrative | P: Practicum | L: leadership | E: environment | T: technology

Weighting Factors

FACTOR STATUS:

Options: R: Required | or | O: optional | or | Q: qualified

FACTOR TYPE:

Options: C: Conceptual | or | S: skill-oriented, | or | B: Both

FACTOR DEPTH:

PROCESS Authority Process Pr			REC	HIBEMEN	ITS FOR IN	ITERNATI	ONAL NUIC	TEAR MA	NAGEMEN	NT PROGRAM
Competency Area (CA)		WORKING DRAFT REVISION 15					INMP			
Competency Area (CA) Track's Nucleariting Track's Nucleariting Managers*			P							•
Competency area are both general but unless focused AND nuclear specific topic encompassing p set of general but unless focused AND nuclear specific topic encompassing p set of general but unless focused AND nuclear specific topic encompassing p set of general encompassion of trade or transport of nuclear geody/materials				WASI	E MAN		-		MENIA	AL.
Competency areas on both general but nuclear focused AND nuclear specific topic encompassing a set of competency demands. Neurotechnol but international Nuclear Management Programme. Notes: Numbering for ecol-Competency areas, corresponds to Appendix B detailed description of INM Regular memory and description of INM Regular memory.			-	Frack Δ· I	Vucleariz				lanageri	ring
Page	Ą					6				6
3.1 Nuclear law	SPEC			iviaii	ивстэ					
3.1 Nuclear law	CT G		Ŋ	Т —		ΙI	Ń	П —		
3.1 Nuclear law	ROL		tatı	γpε)epi	lou	tatı	γpe	epi	lou
3.1 Nuclear law	IPS		S	'	''	S	Sr			S
3.2										
3.3 International nuclear security and safeguards programmes		1 11 11 1			W				W	
4.1 Nuclear plant design principles (technology aspects) 4.2 Nuclear plant design principles (technology aspects) 4.3 Nuclear plant design principles (technology aspects) 4.4 Nuclear plant design principles (technology aspects) 4.5 Nuclear facility life cycle issues and ageing management 4.6 Nuclear waste management (plant life management) 4.5 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear plant decommissioning, environmental remediation 8. C. H. 45 4.7 Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 9. C. W. 30 9. C. W. 30 10. Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 10. S. W. 30 10. C. W. 30 11. S. W. 30 12. S. W. 30 13. S. W. 30 14. S. W. 30 15. C. W. 30 16. C. W. 30 17. S. W. 30 18. S. W. 30 18. S. W. 30 18. S. W. 30 19. S. W. 30 19	EXTE	•			l L				l L	
4.1 Nuclear plant design principles (technology aspects) 4.2 Nuclear plant design principles (technology aspects) 4.3 Nuclear plant design principles (technology aspects) 4.4 Nuclear plant design principles (technology aspects) 4.5 Nuclear facility life cycle issues and ageing management 4.6 Nuclear waste management (plant life management) 4.5 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear plant decommissioning, environmental remediation 8. C. H. 45 4.7 Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 9. C. W. 30 9. C. W. 30 10. Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 10. S. W. 30 10. C. W. 30 11. S. W. 30 12. S. W. 30 13. S. W. 30 14. S. W. 30 15. C. W. 30 16. C. W. 30 17. S. W. 30 18. S. W. 30 18. S. W. 30 18. S. W. 30 19. S. W. 30 19	RN/									
4.1 Nuclear plant design principles (technology aspects) 4.2 Nuclear plant design principles (technology aspects) 4.3 Nuclear plant design principles (technology aspects) 4.4 Nuclear plant design principles (technology aspects) 4.5 Nuclear facility life cycle issues and ageing management 4.6 Nuclear waste management (plant life management) 4.5 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear plant decommissioning, environmental remediation 8. C. H. 45 4.7 Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 9. C. W. 30 9. C. W. 30 10. Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 10. S. W. 30 10. C. W. 30 11. S. W. 30 12. S. W. 30 13. S. W. 30 14. S. W. 30 15. C. W. 30 16. C. W. 30 17. S. W. 30 18. S. W. 30 18. S. W. 30 18. S. W. 30 19. S. W. 30 19	Y E				1				1	
4.1 Nuclear plant design principles (technology aspects) 4.2 Nuclear plant design principles (technology aspects) 4.3 Nuclear plant design principles (technology aspects) 4.4 Nuclear plant design principles (technology aspects) 4.5 Nuclear facility life cycle issues and ageing management 4.6 Nuclear waste management (plant life management) 4.5 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear plant decommissioning, environmental remediation 8. C. H. 45 4.7 Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 9. C. W. 30 9. C. W. 30 10. Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 10. S. W. 30 10. C. W. 30 11. S. W. 30 12. S. W. 30 13. S. W. 30 14. S. W. 30 15. C. W. 30 16. C. W. 30 17. S. W. 30 18. S. W. 30 18. S. W. 30 18. S. W. 30 19. S. W. 30 19	NVIF				i i				i I	
4.1 Nuclear plant design principles (technology aspects) 4.2 Nuclear plant design principles (technology aspects) 4.3 Nuclear plant design principles (technology aspects) 4.4 Nuclear plant design principles (technology aspects) 4.5 Nuclear facility life cycle issues and ageing management 4.6 Nuclear waste management (plant life management) 4.5 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear plant decommissioning, environmental remediation 8. C. H. 45 4.7 Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 9. C. W. 30 9. C. W. 30 10. Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 10. S. W. 30 10. C. W. 30 11. S. W. 30 12. S. W. 30 13. S. W. 30 14. S. W. 30 15. C. W. 30 16. C. W. 30 17. S. W. 30 18. S. W. 30 18. S. W. 30 18. S. W. 30 19. S. W. 30 19	NOS		R	В	Н	45	R	В	Н	45
4.1 Nuclear plant design principles (technology aspects) 4.2 Nuclear plant design principles (technology aspects) 4.3 Nuclear plant design principles (technology aspects) 4.4 Nuclear plant design principles (technology aspects) 4.5 Nuclear facility life cycle issues and ageing management 4.6 Nuclear waste management (plant life management) 4.5 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear waste management and disposal 4.6 Nuclear plant decommissioning, environmental remediation 8. C. H. 45 4.7 Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 9. C. W. 30 9. C. W. 30 10. Nuclear fuel cycle (technology aspects and issues) 8. C. W. 30 9. C. W. 30 10. S. W. 30 10. C. W. 30 11. S. W. 30 12. S. W. 30 13. S. W. 30 14. S. W. 30 15. C. W. 30 16. C. W. 30 17. S. W. 30 18. S. W. 30 18. S. W. 30 18. S. W. 30 19. S. W. 30 19	ME	3.8 International nuclear standards	R	С	ı	15	R	С	I	15
4.2 Nuclear facility life cycle issues and ageing management	4	3.9 Intellectual property (rights and management)	0	С	ı	15	0	С	I	15
4.3 Nuclear facility life cycle issues and ageing management		4.1 Nuclear plant systems (technology aspects)	R	С	I	15	Q	С	I	15
4.4 Nuclear asset management (plant life management)			R		I	15			I	15
4.5 Nuclear waste management and disposal										
A.6 Nuclear plant decommissioning, environmental remediation R										
4.7 Nuclear fuel cycle (technology aspects and issues) 4.8 Nuclear reactivity theory, reactivity management 4.9 Nuclear environmental protection, monitoring and compliance 4.9 Nuclear environmental protection, monitoring and compliance 4.10 Nuclear safety principles and safety analysis 4.11 Radiation safety and management 4.12 Nuclear medicine (imaging, pharmacology, etc.) 4.13 Nuclear agriculture applications (e.g. pest control) 4.13 Nuclear agriculture applications (e.g. pest control) 4.14 Nuclear agriculture applications (e.g. pest control) 4.15 Industrial applications of nuclear science 4.16 Nuclear invitation of the state of the st					1				1	
4.8 Nuclear reactivity theory, reactivity management 4.9 Nuclear environmental protection, monitoring and compliance R B H 45 R B H 45 1.10 Nuclear safety principles and safety analysis R B I I I I I I I I I I I I I I I I I I				_						
4.9 Nuclear environmental protection, monitoring and compliance R B H 45 R B H 45 A10 Nuclear safety principles and safety analysis R B I 15 Q B I 15 A11 Radiation safety and management R C I I5 Q C I I5 A12 Nuclear medicine (imaging, pharmacology, etc.) O C I I5 O C I I5 A13 Nuclear agriculture applications (e.g. pest control) O C I I5 O C					ı				ı	
4.10 Nuclear safety principles and safety analysis					'				'	
1.12 Nuclear medicine (imaging, pharmacology, etc.)	2. T				i				ī	
1.12 Nuclear medicine (imaging, pharmacology, etc.)	ECH			С	ı	15			I	
4.14 Nuclear food-irradiation	_		0	С	ı	15	0	С	I	15
4.14 Nuclear food-irradiation	LOG	4.13 Nuclear agriculture applications (e.g. pest control)	0	С	ı	15	О	С	I	15
4.16 Applications of nuclear isotopes (hydrology, forensics, etc) 4.17 Systems engineering concepts applied to nuclear energy 4.18 Nuclear facility maintenance processes and programmes 8		4.14 Nuclear food-irradiation	0	С	I	15	0	С	I	15
4.17 Systems engineering concepts applied to nuclear energy 4.18 Nuclear facility maintenance processes and programmes 4.19 Nuclear operations and production management 4.19 Nuclear equipment reliability program management 4.20 Nuclear equipment reliability program management 4.21 Information technology and information systems in nuclear 4.22 Nuclear R&D and innovation management 6.1 Nuclear project management, engineering management 7.2 Nuclear R&D and innovation management 8.2 Nuclear R&D and innovation management 8.3 Nuclear of labour relations in nuclear 9.4 Nuclear project management, engineering management 10.5 Nuclear project management, engineering management 10.5 Nuclear project management, engineering management 10.5 Nuclear vent management, emergency planning and response 10.5 Nuclear event management, emergency planning and response 10.5 Nuclear event management, emergency planning and response 10.5 Nuclear success development and management in nuclear 10.5 Nuclear project management in nuclear organizations 10.5 Nuclear success of the project planning in nuclear organizations 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning in nuclear organizations 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and management 10.5 Nuclear success of the project planning and planning and management 10.5 Nuclear success of the project planning and planning and planning and planning and planning and pla		4.15 Industrial applications of nuclear science	0	_	I		0		I	15
4.18 Nuclear facility maintenance processes and programmes R B W 30 R B R B R B W 30 R B R B R B R B R B R B R B R B R B R			_	-	ı		_		I	
4.19 Nuclear operations and production management R R R R C I I I I R C I I I I I I I I I					1				I	
4.20 Nuclear equipment reliability program management R C I 15 R C I 15 4.21 Information technology and information systems in nuclear R C I 15 R C I 15 4.22 Nuclear R&D and innovation management O C I 15 O C I 15 5.1 Nuclear project management, engineering management R B H 45 R B H 45 5.2 Management of labour relations in nuclear C D B H 45 R B H 45 5.3 Nuclear event management, emergency planning and response R B W 30 R B W 30 5.4 Human resources development and management in nuclear R B W 30 R B W 30 5.5 Systematic approach to training in nuclear organizations R C W 30 R C W 30 5.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 5.7 Project planning and management R C I 15 R C I 15 S.8 Nuclear safety management R C W 30 R C W 30 S.7 Project planning and management R C I 15 R C I 15 S.8 Nuclear safety management R C W 30 R C W 30 S.7 Project planning and management R C I 15 R C I 15 S.8 Nuclear safety management R C W 30 R B W 30 S.9 Nuclear quality assurance programmes R C W 30 R B W 30 S.9 Nuclear procurement and supplier management Q C W 30 R C W 30 S.11 Nuclear procurement and supplier management Q C W 30 R C W 30 S.12 Business law and contract management R B H 45 R B H 45 S.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 S.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 S.15 Organizational culture issues in nuclear organizations		· · · · · · · · · · · · · · · · · · ·			-					
4.21 Information technology and information systems in nuclear 4.22 Nuclear R&D and innovation management 5.1 Nuclear project management, engineering management R B H 45 R B H 45 5.2 Management of labour relations in nuclear Q B H 45 R B H 45 5.3 Nuclear event management, emergency planning and response R B W 30 R B W 30 5.4 Human resources development and management in nuclear R B W 30 R B W 30 5.5 Systematic approach to training in nuclear organizations R C W 30 R C W 30 5.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 5.7 Project planning and management R B W 30 R C W 30 5.9 Nuclear safety management, risk-informed decision-making R B W 30 R C W 30 5.10 Organizational behaviour in nuclear organizations Q C W 30 R C W 30 5.11 Nuclear procurement and supplier management Q C W 30 R C W 30 5.12 Business law and contract management R B H 45 R B H 45 S.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 S.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 S.16 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 S.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 S.16 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 S.16 C I 15 S.17 C I 15 S.18 C I 15 S.19 C I 15 S.19 C I 15 S.19 C I 15 S.11 Success		·			W				W	
4.22 Nuclear R&D and innovation management 5.1 Nuclear project management, engineering management R B H 45 R B H 45 5.2 Management of labour relations in nuclear Q B H 45 R B H 45 5.3 Nuclear event management, emergency planning and response R B W 30 R B W 30 5.4 Human resources development and management in nuclear R B W 30 R B W 30 5.5 Systematic approach to training in nuclear organizations R C W 30 R C W 30 5.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 5.7 Project planning and management R C I 15 R C I 15 5.8 Nuclear safety management, risk-informed decision-making R B W 30 R B W 30 5.9 Nuclear quality assurance programmes R C W 30 R C W 30 5.10 Organizational behaviour in nuclear organizations Q C I 15 R C I 15 5.11 Nuclear procurement and supplier management Q C W 30 R C W 30 5.13 Nuclear site security programme management R B H 45 R C I 15 R C I 15					'				' '	
S.1 Nuclear project management, engineering management R B H 45 R B H 45 S.2 Management of labour relations in nuclear Q B H 45 R B H 45 S.3 Nuclear event management, emergency planning and response R B W 30 R B W 30 S.4 Human resources development and management in nuclear R B W 30 R B W 30 S.5 Systematic approach to training in nuclear organizations R C W 30 R C W 30 S.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 S.7 Project planning and management R C I 15 R C I 15 S.8 Nuclear safety management, risk-informed decision-making R B W 30 R C W 30 S.9 Nuclear quality assurance programmes R C W 30 R C W 30 S.10 Organizational behaviour in nuclear organizations Q C I 15 R C I 15 S.11 Nuclear procurement and supplier management Q C W 30 R C W 30 S.12 Business law and contract management Q C W 30 R C I 15 S.13 Nuclear site security programme management R B H 45 R B H 45 S.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 S.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 R C I					i				<u>.</u>	
5.2 Management of labour relations in nuclear Description Solution Description		-			Н				Н	
5.4 Human resources development and management in nuclear 5.5 Systematic approach to training in nuclear organizations R C W 30 R C W 30 5.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 5.7 Project planning and management R B W 30 R C W 30 5.7 Project planning and management R C I 15 R C I 15 5.8 Nuclear safety management, risk-informed decision-making R B W 30 R B W 30 5.9 Nuclear quality assurance programmes R C W 30 R C W 30 5.10 Organizational behaviour in nuclear organizations Q C I 15 R C I 15 5.11 Nuclear procurement and supplier management Q C W 30 R C W 30 5.12 Business law and contract management Q C W 30 R C W 30 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations										
5.5 Systematic approach to training in nuclear organizations R C W 30 R C W 30 5.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 5.7 Project planning and management R C I 15 R C I 15 5.8 Nuclear safety management, risk-informed decision-making R B W 30 R B W 30 5.9 Nuclear quality assurance programmes R C W 30 R C W 30 5.10 Organizational behaviour in nuclear organizations Q C I 15 R C I 15 5.11 Nuclear procurement and supplier management Q C W 30 R C I 15 5.12 Business law and contract management Q C W 30 R C I 15 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations		5.3 Nuclear event management, emergency planning and response	R	В	W	30	R	В	W	30
5.6 Planning and management systems in nuclear organizations R C W 30 R C W 30 5.7 Project planning and management R C I 15 R C I 15 5.8 Nuclear safety management, risk-informed decision-making R B W 30 R B W 30 5.9 Nuclear quality assurance programmes R C W 30 R C W 30 5.10 Organizational behaviour in nuclear organizations Q C I 15 R C I 15 5.11 Nuclear procurement and supplier management Q C W 30 R C I 15 5.12 Business law and contract management Q C W 30 R C I 15 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations		5.4 Human resources development and management in nuclear	R	В	W	30	R	В	W	30
5.7 Project planning and management 5.8 Nuclear safety management, risk-informed decision-making 5.9 Nuclear quality assurance programmes R C W 30 R C W 30 5.10 Organizational behaviour in nuclear organizations C C W 30 R C W 30 5.11 Nuclear procurement and supplier management Q C W 30 R C I 15 5.12 Business law and contract management Q C W 30 R C I 15 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations		5.5 Systematic approach to training in nuclear organizations	R			30	R	С		
S.7 Project planning and management R C I 15 R C I 15	3.				W				W	
5.12 Business law and contract management Q C W 30 R C W 30 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15	MAI				l 				1	
5.12 Business law and contract management Q C W 30 R C W 30 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15	NAG				1					
5.12 Business law and contract management Q C W 30 R C W 30 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15	ÉM	, , , , , , , , , , , , , , , , , , , ,			VV				VV	
5.12 Business law and contract management Q C W 30 R C W 30 5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15	ENT				\/\					
5.13 Nuclear site security programme management R B H 45 R B H 45 5.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15									W	
5.14 Cultural awareness, inter-cultural communication R C I 15 R C I 15 5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15		-								
5.15 Organizational culture issues in nuclear organizations Q C I 15 R C I 15					ı				I	
					I				I	
		5.16 Operating Experience	R	В	Н	45	R	В	Н	45

		PEO	IIIDEMEN	TS EOD IN	TEDNIATIO	ONAL NIIC	TEAD MA	NAGEMEN	NT PROGRAM
	WORKING DRAFT REVISION 15					INMP			
		P	ROGRA WAST	M THE	AGEME	NT, EN	IVIRON		
ASPECT	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements Required to be integrated into an	7	Гrack А: N Man	lucleariz agers*		DIATIO Tı	ack B: M	lanageria neers*	zing
ASPECT GROUPS	International Nuclear Management Programme. Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours
	6.1 Nuclear ethics and values	R	В	I	15	R	В	I	15
4.	62 Nuclear corporate governance and oversight	R	С	W	30	R	С	W	30
	6.3 Leadership and communication in nuclear	Q	В	W	30	R	В	W	30
LEADERSHIP	6.4 Stakeholder communication and public relations in nuclear	R	В	I	15	R	В	ı	15
RSF	6.5 Change management in nuclear organizations	R	С	I	15	R	С	ı	15
₽	6.6 Knowledge management (i.e. NKM graduate course)	R	В	W	30	R	В	W	30
	6.7 Strategic issues and planning (nuclear case studies)	R	В	Н	45	R	В	Н	45
Ģ.	7.1 Cost accounting and cost control in nuclear organizations	Q	В	W	30	R	В	Н	45
	7.2 Financial management and accounting in nuclear organizations	Q	В	W	30	R	В	W	30
7	7.3 Nuclear information and records management	R	С	ı	15	R	С	ı	15
TSII	7.4 Performance monitoring and management in nuclear	R	В	W	30	R	В	W	30
RA.	7.5 Engineering economics, cost estimating	Q	В	1	15	R	В	1	15
I VE	7.6 Analytical decision-making and safety(decision science in nuclear)	Q	В	W	30	R	В	W	30
111	The final field decision making and surely/decision science in nuclear	٩			30	11			30
	8.1 IAEA Nuclear Energy Management School (2-3 weeks)	0	В	W	30	0	В	W	30
6.	8.2 International nuclear leadership course (i.e., 1-week NKM, WNU or INLEP)	0	В	I	15	0	В	I	15
PRACT	8.3 WNU Summer Institute	0	В	Н	45	0	В	Н	45
TICU	8.4 Annual INMP Student Conference (research proposal and results)	R	В	I	15	R	В	I	15
\leq	8.5 Master's Level Thesis or Individual Research Project	R	В	Н	45	R	В	Н	45
	8.6 Work term or internship (e.g. coop study at/with NO)	R	В	Н	45	R	В	Н	45
	8.7 Team project INDICATIVE TOTAL OF HOURS	R	В	W	30	R	В	W	30
					1755				1755
	Decommissioning and Waste management: Summaries								
	ASPECT GROUPS for each competency area	Nι	uclearizir	ig Manag	ers*	Ma	nagerizii	ng Engin	eers*
_	Options	(/	Total (h)			Sum (h)	Total (h)		
	External environment (International, Institutional, politic, legal)	225	1755			225	1755		
	Technology related	495	1755			495	1755		
	Management	480	1755			465	1755		
L	Leadership	180	1755			180	1755		
A	Administrative (decision making)	150	1755			165	1755		
P	Practicum, project, internship	225	1755			225	1755		
	Total amount of hours (Control)	1755				1755			
	STATUS of competency area	Option:	s Sum (h) 210	Total (h)		Options	Sum (h) 210	Total (h)	
	O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or experience	Q	270	1755		Q	105	1755	
	otherwise must make up as it is a requirement)						100	2.00	
	R= Required (core) for the specified programme theme	R	1275	1755		R	1440	1755	
	Total amount of hours (Control)		1755				1755		
	TYPE of approach for each competency area (CA)			Sum (h)				Sum (h)	
	B=Both, combining elements of conceptual and practical levels		В	1080	1755		В	1095	1755
	C=Conceptual level, focus on theory, processes, and awareness of methodologies S=Ckill griented (i.e. bands on ar protical facus on methodology techniques application)		C	675 0	1755		C	660	1755
	S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques, application) Total amount of hours (Control)		3	1 755	1755		3	1 755	1755
	DEPTH of coverage for each Competency area				Sum /h\	Total (h)			Sum (h) To
	I = Introductory (15h)			I	450	1755		I	465 17
	W = Well Grounded general knowledge (30h)			W	720	1755		W	660 17
	H= Higher level of coverage (45h)			Н	585	1755		Н	630 1
	Total amount of hours (Control)				1755				1755
LEGENI									

Numbering: The numbering for each competency areas refer to Appendix B

Aspect Groups (AG)

	WORKING DRAFT REVISION 15	REQU	JIREMENT	rs for in	ΓERNATIO	NAL NUC	LEAR MAI	NAGEMEN	T PROGRAM
		PI	ROGRA	M THE	ME N*	4. DEC	OMMI	SSIONII	NG,
			WASTE	MANA	GEME	NT, EN	VIRON	MENTA	۱L
					REME	DIATIO	V		
 ASPECT	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements Required to be integrated into an	Tı		uclearizi agers*	ng	Tr		anageriz neers*	ing
GROUPS	International Nuclear Management Programme. Notes: Numbering for eachCome petency areas, corresponds to Appendix B detailed description of INM Regquirements	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours

M: Management | A: Administrative | P: Practicum | L: leadership | E: environment | T: technology

Weighting Factors

FACTOR STATUS:

Options: R: Required | or | O: optional | or | Q: qualified

FACTOR TYPE:

Options: C: Conceptual | or | S: skill-oriented, | or | B: Both

FACTOR DEPTH:

	WORKING DRAFT REVISION 15	REQL	IIREMEN	ITS FOR	INTERNA		NUCLE/	AR MAN	AGEMENT I	PROGRAMME
			PROGR	AM TH	EME N* APPL	5. NON	_	R NUC	LEAR	
ASPECT	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements. Required to be integrated into an				anagers*				ingineers*	
ASPECT GROUPS	International Nuclear Management Programme. Notes: Numbering for eachComepetency areas, corresponds to Appendix B detailed description of INM Regquirements	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours	
Ė	3.1 Nuclear law	R	С	I	15	R	С	I	15	
X	3.2International nuclear organizations	0	С	I	15	0	С	I	15	•
ERN	3.3 International nuclear security and safeguards programmes	R	В	I	15	R	В	I	15	
\geq	3.4 Nuclear licensing, licensing basis, and regulatory processes	R	С	W	30	R	С	W	30	
Ę	3.5 Global nuclear energy sector, energy distribution systems etc.	0	С	I	15	0	С	I	15	
EXTERNAL ENVIRONMENT	3.6 National nuclear technology policy and planning	R	С	I	15	R	С	I	15	
N	3.7 International regulation of trade or transport of nuclear goods/materials	R	В	Н	45	R	В	Н	45	
1EN	3.8 International nuclear standards	R	С	I	15	R	С	I	15	
-	3.9 Intellectual property (rights and management)	Q	С	I	15	R	С	I	15	
	4.1 Nuclear plant systems (technology aspects)	R	В	I	15	R	В	I	15	
	4.2 Nuclear plant design principles (technology aspects)	0	С	I	15	0	С	I	15	
	4.3 Nuclear facility life cycle issues and ageing management	R	В	I	15	R	В	I	15	
	4.4 Nuclear asset management (plant life management)	0	С	I	15	0	С	I	15	
	4.5 Nuclear waste management and disposal	R	С	I	15	R	С	I	15	
	4.6 Nuclear plant decommissioning, environmental remediation	0	С	I	15	0	С	I	15	
	4.7 Nuclear fuel cycle (technology aspects and issues)	0	С	I	15	0	С	I	15	
	4.8 Nuclear reactivity theory, reactivity management	R	С	I	15	Q	С	I	15	
2.	4.9 Nuclear environmental protection, monitoring and compliance	R	С	I	15	R	С	I	15	
TECH	4.10 Nuclear safety principles and safety analysis	R	В	I	15	Q	В	I	15	
물	4.11 Radiation safety and management	R	С	I	15	Q	С	I	15	
101	4.12 Nuclear medicine (imaging, pharmacology, etc.)	R	С	I	15	R	С	I	15	
LOGY	4.13 Nuclear agriculture applications (e.g. pest control)	R	С	I	15	R	С	I	15	
	4.14 Nuclear food-irradiation	R	С	I	15	R	С	I	15	
	4.15 Industrial applications of nuclear science	R	С	I	15	R	С	I	15	
	4.16 Applications of nuclear isotopes (hydrology, forensics, etc)	R	С	I	15	R	С	I	15	
	4.17 Systems engineering concepts applied to nuclear energy	R	С	I	15	R	С	I	15	
	4.18 Nuclear facility maintenance processes and programmes	0	С	I.	15	0	С		15	
	4.19 Nuclear operations and production management	0	С	I	15	0	С	I	15	
	4.20 Nuclear equipment reliability program management	0	С		15	0	С	1	15	
	4.21 Information technology and information systems in nuclear	R	С	1	15	R	С	1	15	
	4.22 Nuclear R&D and innovation management	R	C	1	15	R	С	1	15	
	5.1 Nuclear project management, engineering management	0	В	H	15	0	В	L	15 45	
	5.2 Management of labour relations in nuclear	Q R	С	0	45 15	R	С	Н	15	
	5.3 Nuclear event management, emergency planning and response	R R	В	W	30	R R	В	W	30	
	5.4 Human resources development and management in nuclear 5.5 Systematic approach to training in nuclear organizations	R	С	W	30	R	С	W	30	
ω	5.5 Systematic approach to training in nuclear organizations 5.6 Planning and management systems in nuclear organizations	R R	С	I	15	R	В	VV	15	
	5.6 Planning and management systems in nuclear organizations 5.7 Project planning and management	R	С	'	15	R	С	1	15	
MANAGEMENT	5.8 Nuclear safety management, risk-informed decision-making	R	С	'	15	R	С	1	15	
GEN	5.9 Nuclear quality assurance programmes	R	С		15	R	С		15	
SEZ	5.10 Organizational behaviour in nuclear organizations	Q	С	'	15	R	С	1	15	
4	5.10 Organizational behaviour in nuclear organizations 5.11 Nuclear procurement and supplier management	Q Q	С	1	15	R	С	1	15	
			С	W	30	R	С	W	30	
	5.12 Business law and contract management 5.13 Nuclear site security programme management	Q O	С	I	15	0	С	I		
	5.14 Cultural awareness, inter-cultural communication	R	С	'	15	R	С	1	15 15	
		Q	С	1	15	R	С	1	15	
	5.15 Organizational culture issues in nuclear organizations 5.16 Operating Experience	R	В	Н	45	R	В	Н	45	
	5.16 Operating Experience	11	٥	11	+3	11	U		73	

	WORKING DRAFT REVISION 15	REQU	IREMEN	ITS FOR I	NTERNA		NUCLE <i>I</i> I <mark>M</mark> P	AR MAN	AGEMENT	PROGRAMME
			PROGR	AM TH		5. NON	_	R NUCI	EAR	
ASPECT	Competency Area (CA) Competency areas are both general but nuclear focused AND nuclear specific topic encompassing a set of competency elements. Required to be integrated into an			nrizing Ma					ngineers*	
ASPECT GROUPS	International Nuclear Management Programme. <u>Notes:</u> Numbering for eachComepetency areas, corresponds to Appendix B detailed description of INM Regquirements	Status	Туре	Depth	Hours	Status	Туре	Depth	Hours	
	6.1 Nuclear ethics and values	R	В	I	15	R	В	I	15	
4.	62 Nuclear corporate governance and oversight	R	С	I	15	R	С	I	15	
LE⁄	6.3 Leadership and communication in nuclear	Q	В	W	30	R	В	W	30	
LEADERSHIP	6.4 Stakeholder communication and public relations in nuclear	R	В	I	15	R	В	I	15	
RSH	6.5 Change management in nuclear organizations	R	С	I	15	R	С	I	15	
₹	6.6 Knowledge management (i.e. NKM graduate course)	R	В	W	30	R	В	W	30	
	6.7 Strategic issues and planning (nuclear case studies)	R	В	W	30	R	В	W	30	
	7.1 Cost accounting and cost control in nuclear organizations	Q	В	I	15	R	В		15	
ADA	7.2 Financial management and accounting in nuclear organizations	Q	В	W	30	R	В	W	30	
\geq	7.3 Nuclear information and records management	R	С	I	15	R	С	I	15	
IISTR	7.4 Performance monitoring and management in nuclear	R	В	W	30	R	В	W	30	
RAT	7.5 Engineering economics, cost estimating	Q	В	I	15	R	В	I	15	
JVE	7.6 Analytical decision-making and safety(decision science in nuclear)	Q	В	W	30	R	В	W	30	
	Practicum, project, internship									
	8.1 IAEA Nuclear Energy Management School (2-3 weeks)	0	В	W	30	0	В	W	30	
6 . PR/	8.2 International nuclear leadership course (i.e., 1-week NKM, WNU or INLEP)	0	В	I	15	0	В	I	15	
	8.3 WNU Summer Institute	0	В	Н	45	0	В	Н	45	
	8.4 Annual INMP Student Conference (research proposal and results)	R	В	I	15	R	В	1	15	
\leq	8.5 Master's Level Thesis or Individual Research Project 8.6 Work term or internship (e.g. coop study at/with NO)	R R	В	H	45 45	R R	В	H H	45 45	
	8.7 Team project	R	В	W	30	R	В	W	30	
	INDICATIVE TOTAL OF HOURS				1365				1365	
	NON POWER NUCLEAR APPLICAITONS: Summaries								•	
	ASPECT GROUPS for each competency area Options	Sum (h)	Total (h)	ng Manag	ers*	Sum (h)	Total (h)	ing Engin	eers*	
E	External environment (International, Institutional, politic, legal)	180	1365			180	1365			
T M	Technology related Management	330 345	1365 1365			330 345	1365 1365			
IVI	Management Leadership	150	1365			150	1365			
A	Administrative (decision making)	135	1365			135	1365			
Р	Practicum, project, internship	225	1365			225	1365			
	Total amount of hours (Control)					1365				
	STATUS of competency area		Sum (h)				Sum (h)			
	O= Optional for the specified programme theme Q= Qualified (assumes most students will have this as pre-requisite training or	0 Q	255 255	1365 1365		0 Q	255 45	1365 1365		
	experience otherwise must make up as it is a requirement)	Q	233	1303		Q	43	1303		
	R= Required (core) for the specified programme theme	R	855	1365		R	1065	1365		
	Total amount of hours (Control)		1365				1365			
	TYPE of approach for each competency area (CA)		Options B	Sum (h) 690	Total (h) 1365		Options	Sum (h) 705	Total (h) 1365	
	B=Both, combining elements of conceptual and practical levels C=Conceptual level, focus on theory, processes, and awareness of methodologies		С	675	1365		С	660	1365	
	S=Skill-oriented (i.e. hands-on or practical, focus on methodology, techniques,		S	0	1365		S	0	1365	
	Total amount of hours (Control)			1365				1365		
	DEPTH of coverage for each Competency area			Options		Total (h)		Options	Sum (h)	Total (h)
	I = Introductory (15h)			l	735	1365		1	735	1365
	W= Well Grounded general knowledge (30h)			W	360	1365		W	360	1365
	H= Higher level of coverage (45h) Total amount of hours (Control)			Н	270 1365	1365		Н	270 1365	1365
LEGEN					1333				_503	

Numbering: The numbering for each competency areas refer to Appendix B

Aspect Groups (AG)

M: Management | A: Administrative | P: Practicum | L: leadership | E: environment | T: technology

Weighting Factors

FACTOR STATUS:

Options: R: Required | or | O: optional | or | Q: qualified FACTOR TYPE:

Options: C: Conceptual | or | S: skill-oriented, | or | B: Both FACTOR DEPTH: