

Master of Science in “Natural Gas Technology”

Program ILOs courses matrix

The ILOs of the program were stated to satisfy the NARS general ILOs for M. Sc. Degree.

Code	Courses	K&U						IS							P&PS			G&TS							
		a	B	c	d	e	f	a	b	c	d	e	f	g	a	b	c	a	b	c	d	e	f	g	h
NGT600	Gas Reservoir Technology	✓			✓		✓	✓			✓	✓		✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NGT601	Power Systems			✓	✓	✓	✓	✓		✓		✓				✓	✓	✓	✓			✓	✓	✓	
NGT602	Natural Gas Processing	✓		✓	✓	✓	✓		✓		✓		✓	✓	✓		✓	✓	✓			✓	✓	✓	
NGT603	Fires and Explosions		✓		✓		✓	✓			✓		✓			✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
NGT604	Gas well Technology	✓	✓					✓	✓	✓				✓	✓	✓	✓								
NGT605	Gas Transportation and underground storage	✓	✓					✓		✓			✓			✓	✓								
NGT606	Selective Topics in Gas Reservoir Engineering	✓						✓			✓		✓		✓	✓			✓	✓			✓	✓	
NGT607	Corrosion and Corrosion Control		✓			✓		✓	✓								✓								
NGT608	System Simulation	✓		✓		✓		✓							✓	✓		✓							
NGT609	Programmable Logic Control and SCADA7*	✓								✓			✓	✓			✓						✓	✓	
NGT610	Electromechanical Energy Conversion	✓						✓	✓					✓		✓	✓								
NGT611	Selective Topics in Electrical Engineering	✓			✓		✓			✓		✓			✓						✓		✓		
NGT612	Advanced Petrochemicals	✓						✓			✓						✓				✓		✓		
NGT613	Environmental Engineering		✓		✓			✓		✓					✓										
NGT614	Selective Topics in Chemical Engineering	✓					✓	✓									✓							✓	
NGT615	Environmental & Economical Aspects of NG Systems		✓		✓			✓	✓						✓			✓	✓		✓				
NGT616	Failure Modes & Fault tree Analysis		✓			✓				✓					✓	✓	✓						✓		
NGT617	Advanced Measuring Techniques & Control Systems					✓		✓								✓	✓	✓					✓	✓	
NGT618	Safety & Risk Control Technology		✓		✓	✓	✓	✓		✓		✓			✓	✓							✓	✓	
NGT619	Selective Topics in Mechanical Engineering	✓			✓		✓	✓		✓		✓		✓	✓	✓							✓	✓	

Key:

2-1. Knowledge and Understanding: (K & U)

- a. Explain theories and fundamentals related to the area of “Natural Gas Technology”
- b. Define the influence of NG Technology practice and its impact on the environment.
- c. Illustrate the scientific development in the field of NG Engineering and relevant Technologies
- d. Define the ethical and legal principles of NG Technology practice.
- e. Describe the principles and fundamentals of quality control in NG Technology practice.
- f. Write technical reports to illustrate the fundamentals and ethics of scientific research in the field of the Natural Gas Technology.

2-2. Intellectual skills: (IS)

After completing the Master program in Natural Gas Technology, the post graduate engineers should be able to:

- a. Analyze and evaluate the data in the areas of production, reservoir management and processing of NG and related subjects and fields.
- b. Solve NG engineering problems with the unavailability of some data.
- c. Integrate knowledge from various engineering fields to solve NG Industry problems.
- d. Carry out research study and/or write scientific study about research problem in the field of NG Engineering.
- e. Assess risks in the field of NG Technology.
- f. Plan to improve performance in the NG Industry.
- g. Make specialized decisions in various areas of the profession.

2-3. Professional skills: (P & PS)

After completing the Master Program in Natural Gas Technology, the post graduate should be able to:

- a. Demonstrate basic and advanced skills and conduct field studies, troubleshooting and workshops in the field of Natural Gas Engineering and relevant technologies.
- b. Write and evaluate technical reports in the field of Natural Gas Technology.
- c. Assess existing methods and tools in the area Natural Gas Industry.

2-4. General and transferable skills: (G & TS)

The graduate should be able to:

- a. Communicate effectively in different forms.
- b. Use IT to serve the Natural Gas Industry practice.
- c. Self-evaluate and determine personal educational needs.
- d. Use different sources for acquiring information and knowledge.
- e. Develop rules and indicators for assessing the performance of others.
- f. Join efficiently in teamwork taking the role of the leader as appropriate.
- g. Manage time effectively.
- h. Adopt continuous and self learning.