



Course Code OGEE-480	Course Title Oil & Gas Transmission Systems	ECTS Credits 6
Department Engineering	Semester Fall, Spring	Prerequisites MENG-280
Type of Course Elective	Field Oil & Gas Engineering	Language of Instruction English
Level of Course 1 st Cycle	Year of Study 4 th	Lecturer Dr Hadjistassou Constantinos
Mode of Delivery Face-to-face	Work Placement N/A	Co-requisites None

Objectives of the Course:

The main objectives of the course are to:

- Introduce students to onshore oil and gas transmission networks and right-of-way issues
- Learn the prominent pipeline codes, specifications and standards
- Present the fundamental principles governing pipeline hydraulics
- Familiarize attendees with the technical characteristics of pumping and compressor stations and coolers
- Outline the most common pipeline defect mechanisms
- Explain the major cleaning, monitoring and maintenance techniques
- Detail the operational hazards, safety, and physical security issues and cyber-attacks risks

Learning Outcomes:

After completion of the course students are expected to:

- Learn about the economic and technical issues of pipeline networks
- Familiarize themselves with right-of-way and access to pipeline systems
- Be aware of the important pipeline codes, specs, standards & regulations
- Apply the fundamental flow equations and understand the physics of gaseous and liquid flow in conduits
- Acquaint themselves with the technical matters pertaining to liquid flow pumping and compressor stations and coolers
- Understand the most frequent pipeline defects mechanisms including crack formation, corrosion, and erosion
- Know the most common internal oil & gas pipeline cleaning methods, flow and pressure monitoring and maintenance methods
- Be aware of the operational hazards of pipeline, safety, physical security issues and cyber-attacks

Course Contents:

Learning Activities and Teaching Methods:

Lectures, exercises, in-class discussion.

Assessment Methods:

Homework, project assignment, mid-term tests, final exam.

Required Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Liu Henry	Pipeline Engineering	Lewis Publishers	2003	0587161400

Recommended Textbooks/Reading:

Authors	Title	Publisher	Year	ISBN
Dickenson, C. T.	Valves, Piping and Pipelines Handbook	Elsevier	2007	185617252
Bruce E. Larock, Roland W. Jeppson & Gary Z. Watters	Hydraulics of Pipeline Systems	CRC Press	2000	0849318068