

# AMPE15 DRILLING FLUIDS AND CEMENTING TECHNIQUES

## UNIT-1 INTRODUCTION

- 1.1 Introduction to the basic functions and properties of drilling fluids and cement slurries.
- 1.2 Compositions and related properties of drilling fluids and cement slurries.

## UNIT-2 DRILLING FLUIDS

- 2.1 Classification – water base drilling fluids.
- 2.2 Testing of drilling fluids.
- 2.3 Drilling fluid additives.

## UNIT-3 TYPES OF EQUIPMENT AND METHODS USED IN CEMENTING OPERATIONS.

- 3.1 Drilling fluid and cement slurry hydraulics.

## UNIT-4 DETERMINATION OF TORQUE AND DRAG

- 4.1 Calculation of cutting transport efficiency.
- 4.2 Placement technique of cements.
- 4.3 Gas migration through cement columns.

## UNIT-5 WELL CEMENTING

- 5.1 Chemistry of cements.
- 5.2 Cementing principles- primary cementing, secondary cementing,
- 5.3 Linear cementing, plug cementing, and single stage cementing, multistage casing cementing.

### References Books:

1. Mc.Cray. A.W and Cole.F.W. 'Oil Well Drilling Technology' University of Oklahoma Press, Norman 1959.
2. Standard Handbook of petroleum and Natural Gas Engineering. 2nd Edition. William C Lyons, Gary C Plisga. Gulf Profession.