

Course on **Wastewater Pumping Stations Design**

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Course Lectures:

- 01- Introduction, Why Pumping Station?
- 02- Population Study.
- 03- Water and Wastewater Consumption.
- 04- Inlet Screen / Grinder.
- 05- Intake.
- 06- Well Types, Shapes and Sizing.
- 07- Suction Side.
- 08- Pumps Types and Classifications.
- 09- System Curve Calculations.
- 10- Pump Head Calculations.
- 11- Pump Selection.
- 12- Discharge Side.

Course Lectures (Cont.) :

- 13- Rising Mains and Materials.
- 14- Valves.
- 15- Cavitation and N.P.S.H. Calculations
- 16- Ventilations.
- 17- Odour Control.
- 18- Physical Modelling.
- 19- Introduction on Surge Analysis & Vessels
- 20- Pumps Factory Acceptance Test (FAT).
- 21- Screen and Pumps Installation Procedures.
- 22- Operations.
- 23- Maintenance.
- 24- Bearing & Mechanical Seals Failure and Their Causes.

Course Referances:

- 1- Egyptian Code of Practice (ECP 101).
- 2- Pumping Stations Design.
- 3- Pump Handbook.
- 4- Multi Books and Papers for Who need more Information.
- 5- Multi References from Pumps Manufacturers.

-All References will be add to Facebook Page Library at Time.

Course Roles:

- Lectures will be add as Lecture / week (on Thursdays) as PPT. Attached with Examples and Excel Sheet (if Required) + Questions for Discussions.
- Lecture Discussions & questions shall be open until next Wednesdays.
- Sorry, If I cannot Satisfy your needs.