

**Course Contents:**

Overview: Demand for infrastructure; infrastructure sectors; role of private sectors and PPPs; Greenfield vs. Brownfield investments; sources of revenue and financing; competition and Regulation; Decision making on infrastructure projects: Cost benefit analysis, engineering economics and capital budgeting; assessment of projects; decision making framework; business process; financial records; accounting principles and conventions; financial statements; depreciation; determining cash flows; estimation of capital costs; estimation of operating costs; taxes and royalties; working capital, case studies; Evaluating capital projects: Time value of money; interest and interest rates; evaluation criteria for investment decisions; mutually exclusive, replacement and independent projects; practical issues in evaluation of projects; sensitivity, scenario, and other decision analysis techniques; case studies; Risk assessment: Returns; certainty and uncertainty; portfolio risk; diversification; cost of capital; interest rates and cost debt; Weighted average cost capital, leverage and debt financing; opportunity cost of investment; sources of uncertainty; probability method; risk adjusted discount rate; certainty equivalent method; risk adjustment practices; Monte Carlo simulation; decision tree analysis; utility theory and risk; real options analysis; case studies; Financing of capital projects: Sources of finance; financial securities; financial markets; equity and debt financing; financing engineering for capital projects; project finance; PPP and funding of public infrastructure; case studies