

CM553: Project Risk Analysis and Mitigation Techniques

| Teaching Scheme | | | Credits | Marks Distribution | | | | Total Marks |
|-----------------|---|---|---------|--------------------|----|-----------------|----|-------------|
| L | T | P | | Theory Marks | | Practical Marks | | |
| | | | | ESE | CE | ESE | CE | |
| 3 | 2 | 0 | 5 | 70 | 30 | 30 | 20 | 150 |

Course Content:

| Sr. No. | Topics | Teaching Hrs. |
|-------------------|--|---------------|
| 1 | <p><u>General:</u></p> <p>Importance of Risk, types of risks, quantifiable and unquantified risks.</p> | 06 |
| 2 | <p><u>Risk analysis and Management for projects (RAMP):</u></p> <p>Identifying risk events. Probability distribution. Stages in Investment life-cycle; determination of NPV and its standard deviation for perfectly co-related, moderately co-related and un-correlated cash flows. Sensitivity analysis, scenario analysis simulation, decision tree analysis, risk profile method, certainly equivalent method; risk adjusted discount rate method, certainty index method, 3 point estimated method; use of risk prompts, use of Risk Assessment tables, details of RAMP process, utility of Grading of construction entities for reliable risk assessment.</p> | 18 |
| 3 | <p><u>Risk Mitigation Techniques:</u></p> <p>Elimination, reducing, transferring, avoiding, absorbing or pooling. Residual risk, mitigation of unquantified risk. Coverage of risk through CIDC's MOU with the Actuarial Society of India through risk premium such as (BIP) - Bidding Indemnity Policy (DIMO) - Delay in meeting obligation by client policy, (SOC) - Settlement of claims policy (LOP)- Loss of profit policy (TI). Transit Insurance policy (LOPCE) Loss of performance of construction equipment policy.</p> | 18 |
| Total Hrs. | | 42 |

Reference Books:

1. Dr.Surendra Kumar Satya Prakashan, “*Industrial Engineering and Management of manufacturing systems*”.
2. RAMP Handbook by institution of Civil Engineers and the faculty and Institute of Actuaries- Thomas Telford publishing, London.
3. Seetharaman, “*Construction Engineering and Management*”
4. Prasanna Chandra, “*Projects Planning analysis selection implementation and Review*”.