

Department of Chemistry

Presidency University

Ph.D. Course Work Syllabus

Duration: Two semesters (Odd and Even)

Compulsory Courses (Three subjects, 2 + 4 + 2 = 8 credits):

CHEM C1A RR: Review of research work (2 Credits, Full Marks: 25, Sessional) **(Odd Semester)**

CHEM C4 RM: Research Methodology (4 Credits, Full Marks: 50, Sessional) **(Even Semester)**

CHEM C1B RPE: Research and Publication Ethics (2 Credits, Full Marks: 25, Sessional) **(Odd Semester)**

As per UGC guidelines (Philosophy and Ethics, Scientific Conduct, Publication Ethics, Open Access Publishing, Publication Misconduct, Databases and Research Metrics)

Elective Courses (Two subject, 2x4=8 credits, Full Marks: 50 for each course, Non-Sessional Paper):

Courses Offered in Odd Semester

CHEM E2A: Application of spectroscopic studies in chemical research (odd semester)

CHEM E2B: Physical chemistry of polymer (odd semester)

CHEM E2C: X-ray crystallography for chemists (odd semester)

CHEM E2D: Magneto-chemistry (odd semester)

CHEM E2E: Non-equilibrium statistical mechanics (odd semester)

CHEM E2F: Techniques used in biophysical chemistry (odd semester)

CHEM E2G: Green energy solutions: Storage devices and electrocatalysis (odd semester)

Courses Offered in Even Semester

CHEM E3A: Advanced quantum mechanics (even semester)

CHEM E3B: Advanced electrochemistry: Electrolyte to polyelectrolytes (even semester)

CHEM E3C: Advanced synthetic organic chemistry: Asymmetric synthesis and catalysis (even semester)

CHEM E3D: Advanced heterocyclic chemistry (even semester)

CHEM E3E: Chemistry of medically important compounds (even semester)

CHEM E3F: Advanced organometallic chemistry (even semester)