

# Postgraduate Initiative in Project Engineering IX7202: Project Portfolio Engineering

## IX7202 Aims

- IX7202-A1:**
- Specify and develop the critical skills to assure reasonable mitigation, coverage or transfer of project risks.
- IX7202-A2:**
- Specify and develop the critical skills to assure adequate environment for project execution and conclusion.
- IX7202-A3:**
- Specify and develop the critical skills to define effective communication for project steering.

## IX7202 Learning Outcomes

- IX7202-LO1:**
- Review and analyse tools to organise a project portfolio and related quality system at the strategic level of contractor (senior supplier).
- IX7202-LO2:**
- Critically evaluate both qualitative and quantitative analysis for a project.
- IX7202-LO3:**
- Critically review risk management plan.

## IX7202 Expected Student Learning Activity

- Total Learning time 200 hours:
- 36 hours contact time
  - 164 hours independent study (team construction and real case analysis)
- Students are expected to attend all lectures/seminars and actively engage with online learning resources.

## IX7202 Assessment

- Learning outcome IX7202-LO1** is assessed through:
- individual construction (1,000 words) of project portfolio quality system (25%),
  - and individual critical analysis (1,000 words) of similar construction by someone else (25%).
- Learning outcome IX7202-LO2** is assessed through:
- a group presentation (equivalent 1,000 words - 25 minutes presentation and 5 minutes Q&A) of project risk analysis (25%).
- Learning outcome IX7202-LO3** is assessed through:
- reflective report (1,000 words) to analyse group presentation (by other groups): 25%.

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## IX7202 Contents

- IX7202-C1: Project portfolio for product assurance**
- Critical review of project performing organisations: professional practices to manage shared resources and knowledge.
  - QMS (Quality Management Systems) for project performing organisations: review of design, organisation and implementation practices.
  - Presentations, labs and preparation of independent study for quality assurance plan.
- IX7202-C2: Project portfolio to evaluate severity of project execution**
- Professional practices to evaluate likelihood, uncontrollability and severity of project execution failures.
  - Presentations, labs and preparation of independent Failure Mode & Effect Analysis (FMEA).
- IX7202-C3: Project portfolio to strengthen project execution**
- Critical analysis of execution failure mitigation.
  - Professional practices to identify causes and provisions to mitigate severity of execution failures.
  - Presentations, labs and preparation of independent FMEA mitigation.
- IX7202-C4: Project portfolio for risk assessment**
- Professional practices to assess risk in new projects: project experience and formal knowledge.
  - Critical review of risk classification.
  - Presentations, labs and preparation of independent project risk assessment.
- IX7202-C5: Project portfolio for risk mutualisation**
- Professional practices to estimate risk coverage versus transfer budget.
  - Critical analysis of acceptable risks coverage in the project.
  - Presentations, labs and preparation of independent project risk quantitative analysis.
- IX7202-C6: Project portfolio for project commitment**
- Professional practices to qualify project estimates.
  - Critical review of risks either transferred or mutualised.
  - Delphic estimate to validate orders of magnitude and to identify both risk and success factors.
  - Presentations, labs and preparation of independent project risk transfer analysis.
- IX7202-C7: Project portfolio for project commitment**
- Professional practices to manage time and cost contingencies.
  - Critical analysis of risks mutualised within the project, and within project portfolio.
  - Presentations, labs and preparation of independent project contingencies management plan.
- IX7202-C8: Organisation for project portfolio**
- Professional practices for project management processes.
  - Critical analysis of project management processes and measurements.
  - Presentations, labs and preparation of independent project management requirements.