

Postgraduate Initiative in Project Engineering

OA7202: Project Portfolio Engineering

OA7202 Aims

OA7202-A1:

- Specify and develop the critical skills to assure reasonable mitigation, coverage or transfer of project risks.

OA7202-A2:

- Specify and develop the critical skills to assure adequate environment for project execution and conclusion.

OA7202-A3:

- Specify and develop the critical skills to define effective communication for project steering.

OA7202 Learning Outcomes

OA7202-LO1:

- Review and analyse tools to organise a project portfolio and related quality system at the strategic level of contractor (senior supplier).

OA7202-LO2:

- Critically evaluate both qualitative and quantitative analysis for a project.

OA7202-LO3:

- Critically review risk management plan.

OA7202 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.

OA7202 Assessment

Learning outcome OA7202-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 OA7202-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 OA7202-LO3 is assessed through:

- reflective report (1,000 words) to analyse group presentation (by other groups): 25%.

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OA7202 Contents

OA7202-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.

OA7202-C2: Project portfolio to evaluate severity of project execution

- Professional practices to evaluate likelihood, uncontrollability and gravity of project execution failures.
- Presentations, labs and preparation of independent Failure Mode & Effect Analysis (FMEA).

OA7202-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.

OA7202-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.

OA7202-C5: Project portfolio for risk mutualisation

- Professional practices to estimate risk budget versus contingency budget.
- Critical analysis of acceptable risks coverage in the project.
- Presentations, labs and preparation of independent project risk quantitative analysis.

OA7202-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.

OA7202-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.

OA7202-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.