

Postgraduate Initiative in Project Engineering

IX7102: Project Plan Engineering

IX7102 Aims

- IX7102-A1:**
- Specify and develop the critical skills to design assurance of project execution with allocated resources.
- IX7102-A2:**
- Specify and develop the critical skills to organize conditions for project execution.
- IX7102-A3:**
- Specify and develop the critical skills to define effective communication for project development and control.

IX7102 Learning Outcomes

- IX7102-LO1:**
- Review and analyse tools to engineer conformance of the project at the tactical level of project manager.
- IX7102-LO2:**
- Critically analyse, design and organize process to construct project baseline plan and performance measurement plan for the project.
- IX7102-LO3:**
- Evaluate communication for tactical control by project manager.

IX7102 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.

IX7102 Assessment

- Learning outcome IX7102-LO1** is assessed through:
- individual construction (1,000 words) of project baseline plan and performance measurement plan (25%),
 - and individual critical analysis (1,000 words) of similar construction by someone else (25%).
- Learning outcome IX7102-LO2** is assessed through:
- a group presentation (equivalent 1,000 words - 25 minutes presentation and 5 minutes Q&A) of project plan review (25%).
- Learning outcome IX7102-LO3** is assessed through:
- reflective report (1,000 words) to analyse group presentation (by other groups): 25%.

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IX7102 Contents

- IX7102-C1: Project feasibility**
- Methodology for project feasibility analysed through case study: hospital renovation.
 - Critical project feasibility review: communication and interpretation.
- IX7102-C2: Project logic**
- Professional practices for project logic analysed through case study: Ariane 4 flight campaigns.
 - Analysis of relationships between work packages and intermediate deliverables. Diagramming methods.
 - Presentations, labs and preparation of independent study of project baseline logic.
- IX7102-C3: Project organisation**
- Construction process of Role Table and OBS (Organisation Breakdown Structure).
 - Critical review of analytical estimates for tasks and work packages.
 - Presentations, labs and preparation of independent study of project analytical estimates.
- IX7102-C4: Project structure**
- Construction process of WBS (Work Breakdown Structure) for budget assignment, visibility and coordination: professional practices.
 - Critical review of work package description in project baseline plan.
 - Presentations, labs and preparation of independent study of project baseline structure.
- IX7102-C5: Project schedule**
- Construction process for project schedule using dedicated project scheduling software tools.
 - Critical analysis of finish dates integration at data date to determine management action needed.
 - Presentations, labs and preparation of independent study of project baseline schedule.
- IX7102-C6: Task performance analysis**
- Critical analysis of time and cost performance for a task versus technical metrics.
 - Presentations, labs and preparation of independent study of task performance measurement.
 - Methodology to relate various metrics during project execution: case study.
- IX7102-C7: Project performance analysis**
- Professional practices for periodic consolidation of performance status for all tasks.
 - Critical analysis of deviations.
 - Quality control to validate performance status: methodologies and critical review of quality standards.
 - Presentations, labs and preparation of independent study of project performance measurement plan.
- IX7102-C8: Project scope management**
- Critical analysis of proposals for updated project plan: methodologies to reflect impact of a change request in the definition of the deliverable.
 - Presentations and labs.