Project Management II\textsuperscript{a,b}

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1 Description

The unit covers concepts, methods, and techniques for the preparation and deployment of engineering projects. Skill development includes the organisation of information into project proposals, executive plans, and team communication.

2 Teaching and assessment

\textbf{Class format} Presentations, reflections, questions
\textbf{Assignments} v. Documents (§ 4) and subjects (§ 5); Workgroups: 2 to 3 students
\textbf{Criteria} Traceability, objectivity, precision, accuracy (Perdicoúlis, 2012)

3 Programme

\textbf{S01} Unit presentation and logistics
\textbf{S02} Projects and problems; cultures and styles; conception and execution
\textbf{S03} Strategic and operational tiers; planning and management; stakeholder PoV; objectives
\textbf{S04} Project phases; general and specific tasks; the project as a process; milestones
\textbf{S05} Stakeholder maps; project charter, management plan; business case; budget overview
\textbf{S06} Assessment of project proposals; efficiency, performance, returns, quality, innovation
\textbf{S07} Activities along time/ Gantt chart; \textit{cf.} agile (e.g. sprints, burn-down chart)
\textbf{S08} Resource analysis (ReBS); costs; budget
\textbf{S09} Risk analysis (RiBS); causality and probability; responses
\textbf{S10} Organisational structure; communication; human relations
\textbf{S11} Progress check and control of a project; quality; efficiency
\textbf{S12} Extended view: Lean/ Toyota; PDCA/ Deming; Six Sigma
\textbf{S13} Closing a project; future (e.g. dividends, liabilities; closing plan)
\textbf{S14} Global revision and discussion

\textit{a} Classic/ cascade style — Electrical Engineering
\textit{b} Corresponds to the unit's generic configuration — v. SIDE for current specifics
4 Documents

4.1 Project Charter (PC)
1. Project summary ........................................................ brief description
2. Intent and objectives .................................................. outcomes, stakeholders
3. Business case (argument) ........................................... needs, advantages
4. Scope (preliminary) ..................................................... extent and limits
5. Viability study (ex-ante assessment) .............................. capacity and risks
6. Resources and costs (estimate) ..................................... means/ money
7. Roles and responsibilities (estimate) ............................ people, functions, hierarchy

4.2 Management Plan (MP)
1. Scope (final) ................................................................ extent and limits
2. Time management ...................................................... timelines with tasks and resources
3. Resources ..................................................................... means/ money
4. Risks ............................................................................ irregularities and mitigations
5. Communication ............................................................. pathways, modes, frequency
6. Wrap-up ........................................................................ prospective; implementation notes

5 Indicative subjects
1. Wireless power transfer system for automobile charging
2. Power saving plan for the aluminium recycling industry
3. High-efficiency solar-to-electric energy conversion panels

6 Reading list
Perdicoúlis, A. (2015a) Iterations in planning and management. *Systems Planner*, **34**.
Perdicoúlis, A. (2012) Scientific writing. oestros, **5**.