FSA2250 Project management

[15h+15h exercises] 3 credits

This course is taught in the 1st semester

Teacher(s): Jean-Pierre Decostre
Language: French
Level: Second cycle

Aims

The aim of the course is to train the future engineers to the concepts, methods and techniques of project management, and to sensitize them to the strategic and tactical aspects of this management.

Main themes

First the concepts of project and project management are defined. The typical phases of a project are explained and illustrated, as well as the project management bases: Function & Product Breakdown Structure (FBS, PBS); Work Breakdown Structure (WBS); Organization Breakdown Structure (OBS) and Cost Breakdown Structure (CBS).
Project management actions belong to five main functions: scheduling, organization, monitoring and control, team management and quality management. Each function is subdivided into processes which are developed.
Scheduling and control methods and techniques are largely detailed. Regarding the scheduling, the following subjects are covered: tasks network building, PERT techniques (PERT Time, PERT Charge), resources leveling, loading schedule techniques (forward loading, backward loading, resources smoothing). For the control, the topics are: progress measurement and follow up (S-curve, line of balance, slip chart), cost control, calculation of the estimates to complete (quick method, performance analysis), cash flow and cost escalation control.
The course covers the management function in his processes of decision making, communication, team motivation and negotiation. Contract negotiation is more particularly developed (negotiation behavior, legal basis, pre-contractual documents, contractual clauses and in particular receipt clauses). For the organization function, the focus is on the responsibilities, form of project organization in an enterprise, team structure, work method and environment, communication and reporting techniques, document management and computer aided management tools. Regarding the quality management function, it is on the quality concept, quality management assurance and control, ISO 9000 norms and Capability Maturity Model (CMM).
From the pedagogic point of view, each magisterial hour is immediately followed by a practical exercise.

Content and teaching methods

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Other information (prerequisite, evaluation (assessment methods), course materials recommended readings, ...)

PREREQUISITE
Basic notions of probability theory (required to understand the stochastic networks).
COURSE PLAN
(1) Notion of project; (2) Concept of project management; (3) Methods & techniques of scheduling; (4) Methods & techniques of follow up and control; (5) Project management; (6) Organization of project; (7) Quality management.
From the pedagogic point of view, each magisterial hour is immediately followed by a practical exercise.
EVALUATION MODE
Written examination comprising an exercise of scheduling and an exercise of cost control with calculation of the estimate to complete by the performance analysis method.
SUPPORTS
Syllabus, Transparencies, Terms of exercises, Demo of the tool MS/Project

Other credits in programs

ELEC23	Troisième année du programme conduisant au grade d'ingénieur civil électricien	(3 credits)
ELME22/M	Deuxième année du programme conduisant au grade d'ingénieur civil électro-mécanicien (mécatronique)	(3 credits)
ELME23/E	Troisième année du programme conduisant au grade d'ingénieur civil électro-mécanicien (énergie)	(3 credits)
ELME23/M	Troisième année du programme conduisant au grade d'ingénieur civil électro-mécanicien (mécatronique)	(3 credits)
FSA13BA	Troisième année de bachelier en sciences de l'ingénieur, orientation ingénieur civil	(3 credits)
INCH23	Troisième année du programme conduisant au grade d'ingénieur civil chimiste	(3 credits)
INFO23	Troisième année du programme conduisant au grade d'ingénieur civil informaticien	(3 credits)
MAP23	Troisième année du programme conduisant au grade d'ingénieur civil en mathématiques appliquées	(3 credits)
MECA23	Troisième année du programme conduisant au grade d'ingénieur civil mécanicien	(3 credits)