

3.0 credits	30.0 h	1q
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Teacher(s) :	Chumpitaz Caceres Ruben Alberto ;
Language :	Français
Place of the course	Louvain-la-Neuve
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.
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. <i>The contribution of this Teaching Unit to the development and command of the skills and learning outcomes of the programme(s) can be accessed at the end of this sheet, in the section entitled "Programmes/courses offering this Teaching Unit".</i>
Content :	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 levelling, 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 behaviour, 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).

Other infos :	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
Cycle and year of study :	> Master [120] in Computer Science and Engineering > Master [120] in Chemical and Materials Engineering > Master [120] in Mathematical Engineering > Master [120] in Mechanical Engineering > Master [120] in Computer Science > Master [120] in Electrical Engineering > Master [120] in Electro-mechanical Engineering > Master [120] in Physical Engineering > Master [120] in Biomedical Engineering > Master [120] in Civil Engineering
Faculty or entity in charge:	EPL