



EUCIP
European Certification of
Informatics Professionals

Core Syllabus

**A – “PLAN” KNOWLEDGE AREA:
USE AND MANAGEMENT OF INFORMATION SYSTEMS**

Version 2.6

June 2006

EUCIP CORE Version 2.6 Syllabus.

The following is the Syllabus for *EUCIP CORE Version 2.6*, which provides the basis for the tests in this module domain.

Module Goals

EUCIP CORE: Plan Knowledge Area Module A, Plan, looks at organisations and their use of IT, both as an enabler for effective Information Systems and as a platform for innovation. The module requires the candidate to have an thorough understanding of organisations, their strategies and their business processes, as well as the global trends and opportunities which are involved. The candidate shall recognise the main issues related to the management of IT, such as selecting the appropriate technology, or choosing between in-house systems development or outsourcing. The candidate shall also be able to justify IT investments and know about some of the legal and ethical aspects of IT. He / She shall be aware of the requirement for a professional approach to project management and quality assurance. The candidate shall also appreciate the importance of team building and effective communication when presenting the case for change within the organisation.

A – “PLAN” KNOWLEDGE AREA: USE AND MANAGEMENT OF INFORMATION SYSTEMS

Category	Topic	Ref	Item
A.1 Organisations and their Use of IT	A.1.1 Organisational Types and Structures	A.1.1.1	Define major organisational types, their characteristics and corresponding internal structures (e.g. hierarchical vs. “flat”), addressing aspects of legal status (e.g. charity vs. partnership), size (SME vs. corporation)
		A.1.1.2	Describe the role IT plays in an organisation
		A.1.1.3	Show, using diagrams, the workflow within a number of different organisational structures
		A.1.1.4	Identify the purpose of IT within an organisation
		A.1.1.5	Identify the impact differing structures have on the management of IT
	A.1.2 The Role of IT in Information Processing within an Organisation	A.1.2.1	Differentiate between data and information
		A.1.2.2	Show, using diagrams, information processing models
		A.1.2.3	Classify the layers of information processing within an organization

Category	Topic	Ref	Item
		A.1.2.4	Describe the decision flow within these layers
		A.1.2.5	Describe the role of IT in supporting Information Systems within an organisation
	A.1.3 Internal / External Environment	A.1.3.1	Show, using diagrams, the position of organisations within their environments
		A.1.3.2	Define a system in terms of co-ordination, monitoring and control
		A.1.3.3	Demonstrate how external and internal factors impact throughout environments
	A.1.4 Business Plans	A.1.4.1	Define the attributes of a business plan
		A.1.4.2	List the major techniques used in preparing business strategies
		A.1.4.3	Detail the Information Technology that will deliver a given business plan
	A.1.5 Business Processes	A.1.5.1	Define basic business processes
		A.1.5.2	List major applications deployed in supporting business processes
		A.1.5.3	Recognise the business processes used by organisations in different sectors
		A.1.5.4	Detail the IT requirements to improve organisational competitiveness
	A.1.6 IS Support for Organisational Management	A.1.6.1	Define the role(s) and responsibilities of management
		A.1.6.2	Categorise the types of computer support for management
		A.1.6.3	Define organisational knowledge, memory and learning
		A.1.6.4	Describe the major decision-making and problem-solving techniques
		A.1.6.5	Assess the support Management Information Systems (MIS) provide
	A.1.7 Collaborative Technology	A.1.7.1	Identify the attributes of different workflow systems

Category	Topic	Ref	Item
		A.1.7.2	Distinguish between virtual team-working and physical, co-located team-working
		A.1.7.3	Describe the features of collaboration and co-operation, teams and groups
		A.1.7.4	Describe the main features of collaborative technologies
		A.1.7.5	List the major factors for successful implementation of collaborative technologies
	A.1.8 Computer Based Training and e-Learning	A.1.8.1	Describe computer-based training
		A.1.8.2	List the technical requirements for computer-based training, multimedia, etc.
		A.1.8.3	Discuss the advantages and disadvantages of computer-based learning
	A.1.9 The Information Society	A.1.9.1	Assess the impact of IT within society and its subsets
		A.1.9.2	List the advantages and disadvantages of IT in society
		A.1.9.3	Describe the digital divide
A.2 Management of IT	A.2.1 IT Strategy	A.2.1.1	Understand the need for an IT strategy
		A.2.1.2	Describe how to integrate the IT strategy with the business strategy
		A.2.1.3	Relate IT strategy to business processes
	A.2.2 The IT Needs of Different Organisational Structures	A.2.2.1	Describe differing IT requirements within given organisational scenarios
		A.2.2.2	Describe appropriate matches between organisational need and IT
		A.2.2.3	Compose a technology impact statement within a given situation
	A.2.3 Typical IT Functions and Technology Types	A.2.3.1	Detail the most common IT functions within an organisation
		A.2.3.2	Describe the attributes of transaction processing systems, process control systems, planning systems, automation systems, and all types of MIS
		A.2.3.3	Explain the concepts of databases, data mining and data warehousing

Category	Topic	Ref	Item
A.2.4 Systems Development versus Systems Procurement or Outsourcing		A.2.4.1	Explain the situations that require Systems Development
		A.2.4.2	Describe the human, technical and financial components of Systems Development
		A.2.4.3	Explain the situations that require procurement or outsourcing
		A.2.4.4	List the reasons behind outsourcing from a business perspective
		A.2.4.5	Prepare a table of advantages and disadvantages for Systems Development and outsourcing
		A.2.4.6	Prepare a checklist of factors for consideration prior to implementation of such policies
A.2.5 Staffing Considerations		A.2.5.1	Describe the different roles played in developing and maintaining Information Systems
		A.2.5.2	Describe the concept of End User Computing
		A.2.5.3	Describe the advantages and disadvantages of Systems Development and outsourcing in relation to staff issues
		A.2.5.4	Describe the need for Human Resources policies to retain staff, e.g. job mobility, skilled resources, cost of training
A.2.6 Quality Assurance		A.2.6.1	Describe the need for Quality Assurance in Information Systems
		A.2.6.2	Describe major approaches to quality management (e.g. TQM)
		A.2.6.3	Define the major risks associated with lack of quality in IS/IT
		A.2.6.4	Explain the need for monitoring and evaluation of IT investments
		A.2.6.5	Define Total Cost of Ownership (TCO)
		A.2.6.6	List the items included in TCO
		A.2.6.7	Describe the need for project planning
		A.2.6.8	Describe the need for project costing

Category	Topic	Ref	Item
A.3 Measuring the Value of IT	A.3.1 The Concept of the Client	A.3.1.1	Define the concept of stakeholders in a business
		A.3.1.2	Describe the role played by IT staff in supporting the business
		A.3.1.3	Describe different meanings of “client” in IT; e.g. users, external, internal
	A.3.2 Business Plans and Feasibility Studies	A.3.2.1	Describe why IS/IT must support Business Plans
		A.3.2.2	Describe the process of matching IT plans with business needs/plans
		A.3.2.3	Define the “economic feasibility” of Information Systems
		A.3.2.4	Describe the need for technical feasibility
		A.3.2.5	Discuss why a system must be feasible from an organisational point of view
	A.3.3 Costs and Benefits	A.3.3.1	Describe the main approaches used to determine the business value of IT (e.g. Return on Investment)
		A.3.3.2	Describe the business value of information
		A.3.3.3	Describe how the benefits of IS/IT might be evaluated
		A.3.3.4	Define and differentiate between capital costs and operational (current) costs
	A.3.4 Intellectual Capital	A.3.4.1	Understand the concept of “Intellectual Property” (IP)
		A.3.4.2	Describe how IP can be valued (e.g. value of a brand name)
	A.3.5 Evaluation of IT Solutions	A.3.5.1	Define the strategic importance of evaluation
		A.3.5.2	Describe the major methods for evaluation
		A.3.5.3	List the items that are easy and difficult to measure
		A.3.5.4	Describe how to compare results from various financial measures (e.g. ROCE)
	A.4 The Global Networked Economy	A.4.1 New Opportunities	A.4.1.1
A.4.1.2			Describe the use of the Internet as a tool for creating new opportunities

Category	Topic	Ref	Item
		A.4.1.3	Describe the use of extranets in business
	A.4.2 Trends in Commerce and Marketing	A.4.2.1	Describe the major effects of e-business on organisations
		A.4.2.2	Describe examples of the use of IS/IT to effect changes
		A.4.2.3	Describe the effect of global markets on an organisation
		A.4.2.4	Explain the purpose of Customer Relationship Management tools
		A.4.2.5	Describe the use of Supply Chain Management tools
		A.4.2.6	Understand the principles of Enterprise Resource Planning tools
	A.4.3 New Mechanisms and Structures in Business	A.4.3.1	Describe how IS/IT can increase an organisation's flexibility
		A.4.3.2	Define "virtual organisation"
		A.4.3.3	Describe how "virtual organisations" can operate
		A.4.3.4	Describe how technology can redefine organisational boundaries
		A.4.3.5	Describe the "unique customer" concept and its main technology implications
A.5 Project Management	A.5.1 Basic Concepts	A.5.1.1	Describe the differences between IT projects and other business projects
		A.5.1.2	Relate the concepts of project management (PM) to IT and IS
		A.5.1.3	Detail the elements of project control – activities, resources, deliverables, plans
		A.5.1.4	List the major factors which ensure successful PM
		A.5.1.5	List the major factors that hinder successful PM
	A.5.2 Quality, Time and Cost	A.5.2.1	Analyse the impact time, cost and quality have on each other and on PM
		A.5.2.2	List the major models used to calculate the impact of the above
		A.5.2.3	List the major factors that affect the above

Category	Topic	Ref	Item
		A.5.2.4	State the most effective methods for estimating the above
	A.5.3 Project Organisation	A.5.3.1	Identify the principal elements of project organisation
		A.5.3.2	Compare the different alternatives available
		A.5.3.3	Describe the people involved in a project – for example: Project Manager, team, steering committee
		A.5.3.4	Prepare an outline project plan for a given scenario
	A.5.4 Project Planning and Monitoring	A.5.4.1	Describe the main components of different PM techniques and methodologies e.g. PERT, PRINCE2 ®
		A.5.4.2	List the main functional elements of computer- based PM tools
	A.5.5 Project Evaluation	A.5.5.1	Describe how to perform a risk analysis on a project proposal
		A.5.5.2	List methods for costing and evaluating a project plan
		A.5.5.3	List quantitative measures which can be used in project planning and evaluation
		A.5.5.4	List qualitative measures which can be used in project planning and evaluation
	A.5.6 Project and Contract Management	A.5.6.1	List the phases of a typical project
		A.5.6.2	Describe the need for a contract
		A.5.6.3	List the items which should be covered in a contract – deliverables, dates, etc.
		A.5.6.4	Describe the need for milestones, checkpoints, reviews
	A.5.7 Quality and Information Systems	A.5.7.1	List the benefits derived from Quality Assurance in Information Systems
		A.5.7.2	List the costs/risks relating to lack of QA in IS
		A.5.7.3	Describe how QA should be a part of all IS/IT projects
		A.5.7.4	List the benefits of corporate standards e.g. documentation templates
	A.5.8 Quality Assurance Methods and Techniques	A.5.8.1	List the major methodologies used for Quality Assurance

Category	Topic	Ref	Item
		A.5.8.2	Describe how QA techniques can measure quality
		A.5.8.3	Describe the implementation of a QA methodology
		A.5.8.4	Describe the use of a QA technique
A.6 Collaboration and Communication	A.6.1 Teams	A.6.1.1	Explain the concept of groups and teams
		A.6.1.2	List the roles involved in teams
		A.6.1.3	Describe the features of collaboration and co-operation, teams and groups
	A.6.2 Communicating IT Concepts and Definitions	A.6.2.1	Define the need for a common understanding of jargon and IT terminology
	A.6.3 Dialogue between IT Specialists and non-IT Business People	A.6.3.1	Define the concept of “core business” and how IS/IT can assist in achieving corporate aims
		A.6.3.2	Describe how IS/IT fits into the organisation as an enabler
		A.6.3.3	Describe how IS/IT fits in as part of the organisation
	A.6.4 Presenting the Case for Change	A.6.4.1	Describe the necessity for effective communication in business
		A.6.4.2	List motivating factors for the acceptance of new technology
		A.6.4.3	List the reasons why there might be resistance to change
	A.6.5 Audio-visual Tools	A.6.5.1	List the most widely used audio-visual (AV) tools
		A.6.5.2	Describe where audio-visual tools might be used
		A.6.5.3	Describe the benefits of using AV tools
		A.6.5.4	List the technical requirements for use of AV tools
A.7 Legal and Ethical Issues	A.7.1 Intellectual Property and Copyright	A.7.1.1	Define ownership of intellectual property and copyright
		A.7.1.2	Describe breaches of copyright

Category	Topic	Ref	Item
		A.7.1.3	Describe methods to protect intellectual property and copyright
		A.7.1.4	Define software piracy
	A.7.2 Legal Issues	A.7.2.1	Describe the main legal issues related to the use of IT (e.g. privacy, copyright, IPR, software theft and misuse, health and safety)
		A.7.2.2	Describe the principles contained in national legislation related to the above issues in IT
		A.7.2.3	Describe the principles contained in EU legislation related to these IT issues
	A.7.3 Ethics and Codes of Conduct	A.7.3.1	Analyse all levels of decisions from organisational, ethical and moral standpoints
		A.7.3.2	Address issues of personal and professional privacy in the use of IT systems
		A.7.3.3	Describe codes of professionalism and codes of conduct regarding the use of IT systems
		A.7.3.4	Review codes of conduct relevant to organisations
	A.7.4 Security	A.7.4.1	Describe the potential threats to Information Systems and technology
		A.7.4.2	Identify specific methods and technologies that will protect a system
		A.7.4.3	Describe the scope of a security policy
		A.7.4.4	Describe the role of a Security Officer
		A.7.4.5	Know and distinguish different levels of security policies
		A.7.4.6	Evaluate security systems in a given scenario
	A.7.5 Health and Safety	A.7.5.1	Describe the special Health and Safety (H&S) considerations pertinent to hardware
		A.7.5.2	Describe actions to minimise or eliminate potential H&S hazards
		A.7.5.3	Be aware of the main relevant EU and national H&S legislation and directives