

ISM - Topics

1. Business plan and its components (business and IT alignment, types of plan, the role of enterprise architecture, impact on project portfolio management)
2. Innovative use of information technology to support business (current trends of the enterprise IS market, special attention to the SME, SaaS and Open Source approaches)
3. Functional possibilities and limits of e-business applications IS (history, functions and constraints of e-business and cloud computing applications, interface between e-business and the other business applications)
4. Conceptual model versus business process model (differences, characteristics, mutual interconnections and consistency)
5. Role of object life cycle in information modelling of organizations.
6. Business process modelling (types of models, their functions and mutual context. Process patterns and their role in the Business Process Modelling Methodology)
7. Business objects modelling (types of models, their functions and mutual context, Unified Modelling Language and its role in information modelling of organizations).
8. The process of Knowledge Discovery in Databases (basic definition, types of task, CRISP-DM methodology, databases and statistics as sources for Knowledge Discovery in Databases)
9. Data mining methods (decision trees, association rules, decision rules, artificial neural networks, genetic algorithms, Bayesian methods, instance-based learning)
10. Model evaluation for data mining (confusion matrix, accuracy, error, misclassification cost, precision and recall, ROC curve)
11. Data pre-processing for data mining (sampling, attribute selection, attribute transformation, discretization, grouping of attribute values, handling missing values)
12. ICT projects basics (lifecycle, stakeholders, organizational structures (project definition, differences of ICT projects, MMDIS, lifecycle relation to solution-specific lifecycles, typical roles and teams, factors affecting project organization),
13. ICT project management methodologies and their implementation (categories of methodologies, examples, critical success factors of ICT project management methodology implementation)
14. Pre-project phase and project portfolio management (project management in the context of ICT governance and management, activities and documents of pre-project phase, PPM – definition, responsibility, activities, tools, measures)
15. Contemporary concept of Information management (component, functions), strategic concepts according to Porter, Prahalad, and Hamel, the concept of blue oceans, Balanced ScoreCard
16. Information Society (institutions of public and state administration, topics of interests, information classification, legal framework) and Integrated Management System (IMS) (managerial principles, components, regulations)
17. Corporate informatics (reference models and frameworks, measurement, indicators, SLA requirements)
18. IS audit basics (definition, evolution, types of assurance engagement, audit standards from assurance function perspective – ITAF, IPPF, SSAE, audit inputs and outputs, risk management)
19. Audit standards from assessment perspective (information security definition, security regulations classification, example of information security regulations, IS quality definitions and problems, IS quality classification, examples)
20. Methodologies for IS audit (COSO, Cobit 4.1, Cobit 5, principles, document structure, content, goals cascading, RACI chart, measures)
21. Process assessment (role of process assessment in an audit, differences between CMM and PAM model, Cobit 5 support for process assessment)

22. Sourcing (possible variants of sourcing , their impact on an organization and its IT, specifics, and critical success factors)
23. Service-based IT management (differences from other approaches, sense of SLA and its structure, possible measures of service quantity and quality, SPSPR model)
24. Systems integration (problem of systems integration in general., various parts and layers of systems integration, ITILv3 – structure, underlying goals and principles)

RECOMMENDED LITERATURE

Topics 1-3 (4IT487 Information Technologies in Entrepreneurship)

Efraim Turban, David King, 2011, Electronic Commerce 2012: Managerial and Social Networks Perspectives (7th Edition)

Topics 4-7 (4IT525 Enterprise Information Modelling)

Řep, V., Information Modeling of Organizations

Topics 8-11 (4IZ451 Knowledge Discovery in Databases)

Witten, I., Frank E., Hall M.A., 2011, Data Mining: practical machine learning tools and techniques.

Topic 12-14 (4IT524 ICT Project Management)

Harold R. Kerzner, 2013, Project Management: A Systems Approach to Planning, Scheduling, and Controlling

Topics 15-17 (4SA615 Information Management)

Joan Magretta, 2012, Understanding Michael Porter: The Essential Guide to Competition and Strategy

Robert S. Kaplan, David P. Norton ,2006, Alignment: Using the Balanced Scorecard to Create Corporate Synergies.

W. Chan Kim, Renee Mauborgne, 2004, Blue Ocean Strategy: How to Create Uncontested Market Space and Make Competition Irrelevant

Topics 18-21 (4SA613 Information Systems Audit)

ISACA, 2012, COBIT 5: Enabling Processes.

ISACA, 2013, Cobit 5 for Assurance.

D.L.Cannon: CISA Study Guide, Wiley.

ISACA, 2013, CISA Review Manual.

ITGI,2007, COBIT® 4.1.

Topics 22-24 (4IT528 Management of Enterprise IT)

ITIL Lifecycle Suite 2011 Edition [Paper