OTH OSTBAYERISCHE TECHNISCHE HOCHSCHULE REGENSBURG

COMPUTER SCIENCE & MATHEMATICS
PROGRAMME IN ENGLISH
Coordinator: Prof. Dr. Markus Westner

Module title					
IT-Controlling (Strategic IT Management)					

Module code	Level	Hours per week	ECTS credits	Duration
ITC	Master (M.Sc.)	4	5	1 semester

Module instructor	Lecture type	Prerequisite(s)	Grading
Prof. Dr. Westner	Interactive seminar with exercises	Fundamentals of Management	Final exam

Objectives

- Understand and apply the main IT-Controlling concepts and methods that are pertinent to Strategic Management of Information Systems:
    - Linking Systems to Strategy and the Organization:
      Determine the role general managers must take in decisions about IS; Understand the alignment between decisions of business strategy, information systems, and organizational design; Identify and define the various business strategy frameworks; Explain the information system strategy matrix; Understand and apply these models to different organizations.
    - Strategic Use of Information Resources in a Global Economy: List the identifying factors of the eras of information usage; Know what makes an information resource valuable; Explain how information resources are used strategically in context of the 5-forces model; Understand how information resources can be used to alter the value chain; Explain the importance of strategic alliances; Know the risks of information resources.
    - Organizational Strategy - Managerial Levers: Understand how the use of information technology impacts an organization; Identify the type of organizational structure that tends to be most willing to embrace technological change and sophistication; List the advantages and disadvantages of the networked organizational structure; Discuss how IT has changed the way managers monitor and evaluate; Define and explain the concept and importance of virtual organizations; Identify the challenges that are faced by virtual teams.
    - Work Design - Enabling Global Collaboration: Understand how IT has changed the nature of work; Define virtual organizations and how they work; Discuss how managers need to manage virtual teams and the challenges this creates; Understand how attitudes impact technology acceptance in organizations.
    - Building and Changing Global Business Processes: List how IT enables business change; Identify ways in which IT can impede business change; Understand the problems that are caused by the functional (silo) perspective of a business; Identify how the process perspective keeps the big picture in view and how IT can be used to facilitate this perspective; Define TQM and BPR, and explain how they are used to transform a business; Explain an enterprise system and how it is used to implement organizational change.
    - Information Systems Strategy - Architecture and Infrastructure: Understand how strategy drives architecture, which then drives infrastructure; Identify and define the three configurations for IT architecture; Define how business goals can be translated into IT architecture and then into infrastructure; Know the different types of frameworks used to design and build the IT architecture and infrastructure; Understand the importance of knowing the details of the existing architecture and infrastructure of the organization.
    - Cost Recovery of Information Systems: Understand the business of IT and the customers it serves; Understand the balancing act between IS supply and business demand; Describe key IT organization activities and how the leadership within the IT organization ensures that the various activities are conducted efficiently and effectively; List the business processes within the IT department including building a business case, managing an IT portfolio, and valuing and monitoring IT investments; Describe funding models and total cost of ownership.
    - Governance of the Information Systems Organization: Understand how governance structures define the way decisions are made in an organization; Describe the three

models of governance based on organization structure (centralized, decentralized, and federal), decision rights, and control (e.g., COSO, COBIT, ITIL); Discuss examples and strategies for implementation.

- o Sourcing Information Systems around the World: Describe the Sourcing Decision Cycle Framework; Explain the differences between insourcing and outsourcing, inshoring and offshoring, and nearshoring and farshoring; Describe how offshoring must be managed; Define the different ways of outsourcing including ASPs; Understand the difference between full and selective outsourcing; Describe the risks and strategies utilized to mitigate risks.
- o Managing Projects in a Global Ecosystem: List the elements of a good project; Understand why many IT projects fail to meet their targeted goals; Explain the relationship between time, scope, and cost of a project; Be able to identify when it is time to pull the plug on a project.
- o Business Analytics and Knowledge Management: Understand the difference between data, information, and knowledge; Define how tacit knowledge differs from explicit knowledge; Describe why knowledge management is so important; Understand how knowledge is generated and captured; Describe a knowledge map.
- o Ethical Guidelines for Information Use: Understand how ethics should be framed in the context of business practices and the challenges surrounding these issues; Define and describe the three normative theories of business ethics; List and define PAPA and why it is important; Identify the issues related to the ethical governance of IS; Understand organizations' security issues and how organizations are bolstering security; Describe how security can be best enacted; Define the COBIT framework.
- Read, prepare, and discuss case studies in the field of "IT-Controlling".
- Read, understand, and critically reflect selected academic articles in their original language in the field of "IT-Controlling"

Content
- Linking Systems to Strategy and the Organization: Business Strategy Frameworks; Organizational Strategies; IS Strategy
- Strategic Use of Information Resources in a Global Economy: Evolution of Information Resources; Usage of Information Resources as Strategic Tools; Strategic Alliances; Risks.
- Organizational Strategy - Managerial Levers: IS and Organizational Design; IS and Management Control Systems; IS and Culture.
- Work Design - Enabling Global Collaboration: Work Design Framework; How IT changes the Nature of Work; Gaining Acceptance for IT-induced Change.
- Building and Changing Global Business Processes: Silo Perspective versus Business Process Perspective; Agile and Dynamic Business Processes; Changing and Mapping Processes; Enterprise Systems.
- Information Systems Strategy - Architecture and Infrastructure: From Vision to Implementation; From Strategy to Architecture to Infrastructure; Architectural Principles; Enterprise Architecture; Other Managerial Considerations.
- Cost Recovery of Information Systems: Organizing to Respond to Business Deman; Understanding the IT Organization; CIO; Business Case; IT Portfolio Management; Valuing IT investments; Monitoring IT Investments; Funding IT Resources; IT Costs.
- Governance of the Information Systems Organization: IT Governance; IT Governance and Security; Decision-Making Mechanisms; Governance Frameworks for Control Decisions.
- Sourcing Information Systems around the World: Sourcing Decision Cycle Framework; Outsourcing and Strategic Networks.
- Managing Projects in a Global Ecosystem: Definition of a Project; Definition of Project Management; Project Elements; IT Projects; IT Project Development Methodologies and Approaches; Managing IT Project Risk.
- Business Analytics and Knowledge Management: Knowledge Management, Business Intelligence, and Business Analytics; Data, Information, and Knowledge; Business Intelligence; Competing with Business Analytics; Components of Business Analytics.
- Ethical Guidelines for Information Use: Responsible Computing; Corporate Social Responsibility; PAPA Framework; Security and Controls.
- Perspectives on current issues and trends in IT Controlling and Strategic Management of IS

Textbook/teaching material
- Pearlson, Saunders: Strategic Management of Information Systems, 5th Edition, Wiley 2013.
- Peppard, Ward: The Strategic Management of Information Systems, 4th Edition, Wiley 2016.
- McKeen, Smith: IT Strategy, 3rd Edition, Pearson 2015.

Note: this is not the official course descriptor according to the "Studien- und Prüfungsordnung" (SPO)