Aim

The aim of this course is to answer these questions:

- How can the business strategies in the modern e-business enterprises be translated into working IS solutions?
- What are the key building blocks and what type of methodologies can be used to architect working solutions from these building blocks?
- How e-business models (portal, ERP, CRM,...) support business strategies?
- What are the key enabling technologies (middleware, network,...) to build working solutions?
- How can the modern e-business applications be architected by using components?
- How can the new applications be integrated with an existing (including legacy) applications?
- What are the management, security, and support issues?
- What are the state of the art (research and trends), state of the market (commercial products) and state of the practice (case studies and examples) in this field?

Outline

1. Part 1- Introduction
   1.1. Introduction to business strategies
   1.2. e-Business and Distributed Systems- From Strategies to Working Solutions

2. Part 2- Applications
   2.1. E-Business- From Strategies to Applications
   2.2. eBusiness Applications (CRMs, ERPs, eMarkets, SCM, ASPs, Portals)
   2.4. From Strategies to Solutions-A Planning Methodology
   2.5. IT Infrastructure-Overview of Enabling Technologies
   2.6. Applications State of the Practice, Market, and Art

3. Part 3- Architectures: Solution Architecture Through Components
   3.1. Software Architecture
   3.2. Architectural Styles
   3.3. Layered Architectural patterns
   3.4. Enterprise Application Architectures- A Component-based Approach
   3.5. Solution Architecture Overview
   3.6. Enterprise Data Architecture in Web-XML Environments
   3.7. Data clustering / partitioning
   3.8. data transmission/replication
   3.9. Architectures State of the Practice, Market, and Art
4. Part 4- Integration: Enterprise Application Integration and Migration
   4.1. Integration with Existing (Including Legacy) Applications
   4.2. Enterprise and Inter-Enterprise Application Integration
   4.3. Data Warehouses and Data Mining for Integration
   4.4. Migration Strategies and Technologies
   4.5. Re-Engineering Patterns
   4.6. Enterprise Application Integration through SOA

5. Part 5- Technologies
   5.1. Service Oriented Architecture and Web Service
   5.2. Distributed Objects, CORBA, Web Services, J2EE, .Net, SOAP, and EJB
   5.3. Enterprise Data and Transaction Management
   5.4. Asynchronous messaging (message queue)

References