Enterprise Architecture

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Recommended Texts (online/in Library)

- Course Notes: [www.computing.dcu.ie/~mcrane/CA4101.html](http://www.computing.dcu.ie/~mcrane/CA4101.html)

- Recommended Text:

- Additional Texts:


  2. Enterprise Architecture at Work: Modelling, Communication and Analysis (2012) by Marc Lankhorst

Assessment Details

• 40% Continuous Assessment:
  – Enterprise Architecture Project (10%),
    o Part 1: Pencil & Paper project (5%)
    o Part 2: Project done on Signavio (5%)
  – BPMN & UML Use Case Project (30%)
    o Individual
    o Done on Signavio
  – Submit both end of Semester?

• 60% January Exam:
  – Three hours long
  – 4 from 5 Questions?

Course Outline

1. Course Introduction - scope, objectives.
2. Fundamentals of Enterprise Architecture*
3. Business Architecture
   – Business Processes, Workflow Modelling
   – Business Modelling with BPMN
   – Process Change 1: BP Redesign/Re-engineering
   – Process Change 2: The Quality Movement
4. Technology Architecture
   – Middleware
   – Operating Systems and Virtual Platforms
5. Application Architecture
   – Software for business function execution: SOAs (if time permits)
The Basics: What this Module is About

- **What is an Enterprise Architecture, actually?:**
  - ‘A set of principles, methods & models used to design & realize an enterprise’s organizational structure, BPs, info systems & infrastructure’

- **What’s it ultimately for?:**
  - Intent of an enterprise architecture is to determine how an organization can most effectively achieve current and future objectives.

Components of Enterprise Architecture

- **Business Architecture:**
  - Business processes and workflows.
  - Stakeholders and their roles and relationships.
  - Business model, strategy, drivers, goals, policies, and operating model.
  - Business rules that capture the assigned authorities, responsibilities and policies relevant to the BPs.
  - Functional decompositions, business capabilities and organizational models.
  - Funding and operational cycles.
  - Third-party suppliers of hardware, software, and services; their roles and responsibilities.

+A lot about Process Change (BPR, the Quality Movement etc), BPMN, UML Use Case Models.
Components of Enterprise Architecture (/2)

- **Business Architecture**
  - (Business Processes, Organization, People)

- **Application Architecture**
  - (Services)

- **Data Architecture**
  - (Data, Information)

- **Technology Architecture**
  - (Hardware, Software, Network)

The Open Group Architecture Framework (TOGAF)'s Perspective of Enterprise Architecture

**Application Architecture.**
- How the applications execute the business functions and processes by using the data architecture to fulfil business requirements.
- Interfaces between applications as well as between applications and users; these interfaces can be driven by events, messages or data flows.
- A little bit on Service Oriented Architectures

Components of Enterprise Architecture (/3)

- **Data Architecture.**
  - Metadata: data that describes the enterprise's data structures.
  - Data models: logical and physical models of data that is exchanged between business processes, stakeholders and applications. Interfaces between applications as well as between applications and users; these interfaces can be driven by events, messages or data flows.
Components of Enterprise Architecture (/4)

Technology Architecture:
- Platforms: hardware, operating systems, and virtual platforms.
- Middleware; this can be message-oriented (such as WebSphere MQ), applications-oriented (such as Corba) or data-oriented middleware (such as relational databases).
- Hosting of applications on hardware or virtual platforms.
- Local and wide area networks.
- Monitoring and reporting software.
- Security applications. Stakeholders and their roles and relationships.