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:**


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

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

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)

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

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)

- **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

**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.