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:
  – Both 2 person group projects
  – Enterprise Architecture Project (10-15%),
    o Part 1: Zachman Diagram
    o Part 2: Pencil & Paper project
  – Related BPMN, ER & UML Use Case Project (30-25%?)
    o Done on Signavio

• 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
   - Robot Process Automation (if time permits)

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.

![The Open Group Architecture Framework (TOGAF)’s Perspective of Enterprise Architecture](image)
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
The Open Group Architecture Framework (TOGAF)’s Perspective of Enterprise Architecture

Components of Enterprise Architecture (/2)

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)

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.
Questions??