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

• 30% Continuous Assessment:
  – Both 2 person group projects
  – Enterprise Architecture Project (10%),
    o Part 1: Zachman Diagram
    o Part 2: Pencil & Paper project
  – BPMN, ER & UML Use Case Project (20%)
    o Done on Signavio
    o UML/ BPMN

• 70% 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.

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**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.

- **Application Architecture:**
  - Services.

- **Data Architecture:**
  - Data (rules, information).

- **Technology Architecture:**
  - Hardware, software, network.

+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 fulfill 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??