

MITIQ 2007

Curriculum Information Quality

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Agenda

- How to build an European Curriculum for Information Quality?
 - Bologna Process – European Framework
 - Bachelor
 - Master
 - Industrial Needs
- Curriculum Information Quality
- Example Modules
- Next Steps

- **Agenda**
- Introduction
- Curriculum
- Working Groups
- Next Steps

How to build an European Curriculum ...

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- **Bologna Process – goals:**
 - bring quality in European Studies
 - make curricula comparable – with degrees:
 - Bachelor
 - Master
 - simplify student exchange within Europe
 - prepare students for the European market

How to build an European Curriculum ...

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- **Information Quality – Industrial Needs:**
 - Not another computer science specialist
 - Persons with a broad competence basis
 - business understanding
 - process management
 - project management
 - requirements engineering
 - quality management
 - information quality (tools, models, ...)

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Curriculum Information Quality

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- **Elements:**
 - Organization
 - Software Engineering
 - Information Systems
 - Quantitative Methods
 - Information Quality
 - Supplementary Moduls

Curriculum Information Quality

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- **Organization:**
 - Project Management
 - Process Management
 - Change Management
 - Organizational Behaviour

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- **Software Engineering:**
 - IT-Project Management
 - Software Engineering
 - Requirements Engineering
 - Software Quality

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- **Information Systems:**
 - Information Systems
 - Data Warehousing
 - IT-Architecture
 - Interface Management

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- **Quantitative Methods:**
 - Mathematical Methods
 - Statistics
 - Data Mining
 - Visualization

Curriculum Information Quality

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- **Information Quality:**
 - Information Quality
 - Information Quality Tools
 - Total Quality Management
 - Software Quality

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- **Supplementary Moduls:**
 - IT-Security
 - Legal Aspects / Compliance
 - Marketing
 - Business Cases

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- Project Management
- Process Management
- Change Management
- Organizational Behaviour

- Information Quality
- Information Quality Tools
- Total Quality Management
- IQ-Audits / IQ-Methods

- IT-Project Management
- Software Engineering
- Requirements Engineering
- Software Quality

Project

- Information Systems
- Data Warehousing
- IT-Architecture
- Interface Management

- Marketing
- Security / Legal Aspects
- Compliance / Governance
- Business Cases

Thesis

- Mathematical Methods
- Statistics
- Data Mining
- Visualization

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- Project Management
- Process Management
- Change Management
- Organizational Behaviour

- Information Quality
- Information Quality Tools
- Total Quality Management
- **IQ-Audits** / IQ-Methods

- IT-Project Management
- Software Engineering
- Requirements Engineering
- **Software Quality**

Project

- Information Systems
- Data Warehousing
- IT-Architecture
- Interface Management

- Marketing
- Security / Legal Aspects
- Compliance / Governance
- Business Cases

Thesis

- Mathematical Methods
- Statistics
- Data Mining
- Visualization

Example Moduls

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- Elements of a Modul Description:
 - Content
 - Objectives
 - Sources / Textbooks
 - Prerequisites
 - Dependencies with other Courses
 - Delivery Mode

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Software Quality

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■ Content:

This course covers the following topics:

- Motivation – quality characteristics of software
- Quality of requirements, concepts and programs
- Tools and methods
- Analytical vs. proactive software quality assurance
- Software testing
 - Static testing
 - Software quality metrics
 - Reviews
 - Dynamic testing
 - Functional testing (Black box)
 - Structure-oriented testing (control flow)
- Test-driven software development (incl. xUnit)
- Refactoring
- Test frameworks
- Software quality standards
 - CMMI
 - SPICE

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Software Quality

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■ Objectives:

Having finished this course, students will be able to:

- differentiate between a number of software quality characteristics
- assess the application areas of analytical and proactive quality assurance methods
- combine static and dynamic testing methods in a meaningful way
- develop software in a test-driven way, using tools like xUnit
- refactor given software artifacts
- adapt test frameworks to a given application scenario
- assess the intention and application areas of well-known software quality standards

IQ Audits

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■ Content (I):

Tutorial lessons of IQ Audit spread sheets are included.

Introduction: IQ Audit and main areas of application

QM Elements of IQ Audits:

- Management Accountability
- Organization and Processes
- Data Collection - Data Processing - Data Usage
- DQM – Data Checks
- DQM – Measures
- Technical Requirement – Data Model / Flow / Manipulation
- DQ / IQ Training
- Reference Systems
- Interface Management

■ Content (II):

QM Elements of IQ Audit:

- Service Level Management
- Meta Data Management
- Measuring Data Quality
- Data Cleansing and Data Enrichment
- DQ / IQ Monitoring
- Risk Assessment
- Economic Efficiency
- Documentation

Special application: IQ Audit for IT Projects

Interview Session: How to carry out an Audit interview?

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IQ Audis

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- Objectives:

Ability to judge the status of Information Quality in the different area of business and projects.

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