



Data Warehousing Education



Online Education • Certification • Enterprise Solutions

- Data Warehousing Fundamentals
- Building and Operating a Data Warehouse
- DW and BI Data Modeling
- Data Integration Fundamentals and Best Practices
- Data Quality Fundamentals
- Data Parsing, Matching, and De-Duplication
- Data Profiling
- Data Virtualization
- Ensuring Data Quality in Data Integration
- Data Integration Techniques for Designing an ODS



TABLE OF CONTENTS

➤ OVERVIEW	2
➤ CURRICULA AT-A-GLANCE	3
➤ CERTIFICATION PROGRAMS	4
➤ EDUCATION PACKAGES	5
➤ ENTERPRISE SOLUTIONS	6-7
➤ COURSE DESCRIPTIONS	8-17
➤ OUR INSTRUCTORS	18-19
➤ OUR CUSTOMERS	20-21
➤ CONTACT US	22
➤ PRICE LIST	23
➤ ABOUT ELEARINGCURVE	23

Data Warehousing (DW) is a core component of modern business data management, providing essential capabilities to integrate data, capture and retain history, and give business users a reliable, understandable, and trusted source of data.

Data warehousing has evolved from its origin in the early 1990's as a high-latency resource of integrated reporting data. Today the data warehouse is the cornerstone of an enterprise data hub with data that ranges from high-latency to real time, with use cases that range from reporting to advanced analytics, and with data across the spectrum from enterprise transaction data to a variety of big data types.

The modern data warehouse is a complex data management system that depends on skilled and educated architects, designers, and developers.

WHAT OUR CUSTOMERS ARE SAYING

“The course instructors were very insightful, and were very knowledgeable.”

I found the courses to be very well designed; they were intellectually stimulating and challenging, but the workload was manageable. The course instructors were very insightful, and were very knowledgeable with the great hands-on experience and provided interesting real life examples.

Marina Severinovskaya, CIMP Ex - Data Governance, CIMP - Data Quality, MDM, IM Foundations, USA

CURRICULA AT-A-GLANCE

Full course descriptions begin on page 8.

Data Warehousing Fundamentals

Instructor: Mark Peco

This 5-hour course presents a holistic view of data warehousing components, concepts, and definitions. From a systems-thinking perspective, you'll see a framework that describes the building blocks and their interactions to generate real and measurable value.

Building and Operating a Data Warehouse

Instructor: Mark Peco

This 4.5-hour course re-defines the scope of the “modern” data warehouse. The need for planning and the role of architecture are described and clarified, followed by a discussion about the challenges related to gathering useful information requirements. This is followed by a discussion of design approaches, development, testing and quality management techniques.

DW and BI Data Modeling

Instructor: Rick Sherman

This 4-hour course includes a mix of data modeling concepts, best practices, applications and practical examples that will help you build effective data warehouse and business intelligence applications.

Data Integration Fundamentals and Best Practices

Instructor: Dave Wells

This 5-hour course discusses architectures, requirements, methods, roles and activities of data integration that can be applied to achieve successful data integration projects for a variety of applications and circumstances.

Data Quality Fundamentals

Instructor: Dave Wells

Data quality is a large and complex field with many dimensions. This 4-hour course provides an overview of the field of data quality with the goal of building strong foundational knowledge, including terminology, concepts, principles, processes, and practices.

Data Parsing, Matching, and De-Duplication

Instructors: Kathy Hunter, William McKnight, Henrik Sørensen

To take advantage of the worldwide marketplace, businesses need to manage data globally. This reality poses very specialized and unique kinds of problems in data management. In this 4.5-hour course you will learn to identify and avoid the pitfalls of global information.

Data Profiling

Instructor: Arkady Maydanchik

Data profiling is the process of analyzing actual data and understanding its true structure and meaning. It is one of the most common and important activities in information management. This 5-hour course teaches all practical skills necessary to succeed in a data profiling initiative.

Data Virtualization

Instructor: Dave Wells

Data virtualization is a core component of next-generation data integration architectures, techniques, and technology. This 3-hour online training course will introduce you to the concepts, techniques, and capabilities of data virtualization.

Ensuring Data Quality in Data Integration

Instructor: Arkady Maydanchik

Without a comprehensive data quality monitoring program bad data spread like viruses through countless real-time and batch interfaces. This 5-hour course discusses various practices that can be put in place to maintain high data quality through data integration.

Data Integration Techniques for Designing an ODS

Instructor: Angelo Bobak

Business data integration is a complex problem that must be solved when organizations change or enhance their internal structures. This 3-hour online course presents a simple yet thorough process that describes the challenges of building an Operational Data Store (ODS) and the solutions to these challenges.



CIMP: Demonstrate Mastery. Achieve Success.

Certification is an important tool for job seekers and for employers seeking to hire the most qualified people. eLearningCurve offers a robust certification program, Certified Data Integration Professional (CIMP) that builds upon education to certify knowledge and understanding of data warehousing.

The CIMP Data Warehousing designation makes a clear statement that you have learned from the industry leaders and have demonstrated thorough understanding of data integration by passing several challenging exams.

For the true experts and standard bearers in the industry we offer the second level of CIMP certification - **CIMP Ex**. To earn the CIMP Ex designation you must demonstrate a combination of great **Expertise**, **Experience**, and **Excellence**.

WHAT SETS CIMP APART?

Rigorous exam system: We go beyond the basics. Rather than testing for knowledge that any industry professional should know, CIMP exams test an in-depth knowledge, comprehensive understanding, and ability to apply various concepts to a problem. You can be proud of your achievement of the CIMP designation, and hiring managers can be sure they are getting a highly knowledgeable employee.

Education to support certification: We believe that the best way to ensure success is to combine meaningful industry experience with thorough academic study. To that end, CIMP exams are aligned with our courses, developed and taught by top industry educators and professionals.

Designed with busy, working professionals in mind: No time-consuming or costly travel is required to complete coursework or to take your CIMP examinations. All courses and exams are available online. All that's required of candidates is an internet connection and the desire to demonstrate mastery of data governance topics and achieve success.

HOW DO I ENROLL?

The most convenient and cost-efficient method to enroll in the CIMP program is with one of our [Education Packages](#). Each package includes all courses and exams necessary to earn CIMP or CIMP Ex. Alternatively, you can enroll in courses one at a time.



For more information about CIMP, including customer stories on the Web visit <http://ecm.elearningcurve.com>.

EDUCATION PROGRAMS



Education Program packages allow you to purchase bundles of online data warehousing courses at a significant discount. Whether you are looking for a comprehensive data quality education covering all relevant topics, or want to focus on a specific topic or job role, there is a program for you.

CIMP Data Warehousing Program offers education in data warehousing capped off with the Certified Information Management Professional (CIMP) designation in the Data Warehousing track. The program includes five courses chosen from our data warehousing curriculum. Students, their managers, or program sponsors may pick different course combinations that are most suitable to individual student's roles and needs.

CIMP Ex Data Warehousing Program ensures thorough understanding of data warehousing expected from a true expert. The program includes all five "core" data warehousing courses and three elective courses, one of which can be chosen outside of the data warehousing curriculum. Upon completion of the program you will meet the academic requirements of the highest level of CIMP – CIMP Ex.

Many information management disciplines, such as data warehousing and data integration are strongly interconnected. A true expert in one area would desire an in-depth knowledge in the other. **CIMP Ex Data Integration & Data Warehousing Program** combines education in data warehousing and data integration. The program includes 10 courses and allows you to earn CIMP in Data Integration and Data Warehousing tracks.

We recognize that everyone's needs are unique. If you cannot find a program for you, simply e-mail support@elearningcurve.com and tell us what you are looking for and we will tailor the program for your needs.

ENTERPRISE SOLUTIONS



Today more than ever companies are watching expenses and looking for ways to streamline processes, make training convenient, and create a consistent, scalable learning environment.

eLearningCurve Enterprise is a flexible, convenient, and cost-effective way to train your employees and ensure that all team members have access to data warehousing training they need when they need it. Whether your team or department work in the same office, or are on the other side of the world from each other, you can train them on time and on budget with eLearningCurve Enterprise.

Why eLearningCurve Enterprise?

- Comprehensive educational solution from a single provider
- Employees can take the courses they need when they need them
- Ensure all team members are trained to the same high standard
- Train employees no matter what their geographic location
- Employ a fully scalable education solution
- Minimize disruption to the business
- Maximize your employee training ROI
- Achieve 100% information comprehension
- Get "live" time with our instructors
- Stretch your training budget
- Get solutions for your specific needs

When you become an Enterprise customer we:

- Work with you to develop educational programs for different roles, positions, teams, departments
- Manage and track enrollment of all students in online classes and CIMP exams
- Track and report educational progress for each student
- Work with you to meet any specific educational needs, including:
 - Organize question and answer meetings (via Webinar) with course instructors for groups of students who complete online courses
 - Organize onsite sessions when appropriate, often for senior management.
 - Prioritize new course development, or customize existing courses, per customer needs
 - Create custom instances of our Learning Management System to reflect customer branding
 - Mount our online courses on the customer's Learning Management System

eLearningCurve Enterprise Benefits

PARTNERSHIP: *Comprehensive educational solution from a single provider.*

eLearningCurve will be your educational "partner-for-life" providing all employees with continuous information management education they need over the course of their careers. You can be sure that all employees, including new hires and transfers, come up to speed quickly and learn from a common state-of-the-art set of courses.

FLEXIBILITY: *Employees can take the courses they need when they need them.*

Educational needs vary from employee to employee and project to project. eLearningCurve's flexible program allows your employees to take the courses they need when they need them to best suit their role, projects, backgrounds or interests.

CONSISTENCY: *Ensure all team members are trained to the same high standard.* Train your existing team, and set up courses for new hires and transfers. Consider CIMP exams to verify that your employees utilize the same methodology, techniques, and terminology.

SCALABILITY: *Select an Education Partner who truly understands scalability.*

eLearningCurve Enterprise is 100% scalable. Roll out to a few employees, or your entire organization. If your team or department grows, it's no problem. Our solution can quickly and effortlessly accommodate groups of all sizes, even if they are geographically dispersed.

BREADTH: *Acquire comprehensive education and certification.*

We offer more than just a collection of courses, we offer information management education. Whether its data quality, data governance, MDM or another information management discipline or function we have you covered with a comprehensive set of courses, exams, and certification programs designed to impart knowledge, test understanding, and validate learning.

LOCATION: *Train employees no matter what their geographic location.*

Overcome geographical barriers to training. With eLearningCurve Enterprise you can train your entire team whether they are in the same office, or on the opposite sides of the world. Everyone can access our online courses from any place at any time.

LOGISTICS: *Minimize disruption to the business.*

It's not realistic for an entire department to take time off en masse for training. eLearningCurve's online format allows employees to study from their office or home, allocate full training days, or study an hour a day during lunch breaks.

ROI: *Maximize your employee training ROI.*

No need to worry about paying for flights, hotels and other travel expenses. 100% of what you spend goes towards learning, thus achieving top quality education at a fraction of the cost of in-person training.

RESULTS: *Achieve 100% information comprehension.*

Learn from top industry experts in data quality, data governance, master data management, data modeling, data warehousing, and business intelligence. Study at your own pace, listen to the material many times, and test your knowledge through CIMP certification exams.

SAVINGS: *Stretch your training budget.*

We offer various pricing options including volume discounts, pay-as-you-go model with increasing discounts, and other alternatives. We try to understand your needs and budget constraints, and meet them in the best way possible.

"LIVE" INTERACTION: *Spend time with our instructors.*

Arrange "live" Webinar sessions with the leading experts, practitioners, and educators, or purchase online/onsite training combination packages and get access to our education both online and "live" on-site.

CUSTOMIZATION: *Get solutions for your specific needs.*

Our Learning Management System can be customized to reflect your company's branding or we can mount our courses on your corporate LMS.

Data Warehousing Fundamentals

Instructors: Mark Peco

Duration: 5 hours, 30 minutes

The primary purpose of data warehousing is to put raw data into an "analyzable state" and deliver data and information that is useful, relevant and accessible. Though data warehousing is a mature discipline, it continues to develop driven by new perspectives, innovative ideas, evolving technology and competitive business pressures.

There are many concepts and components to be understood, integrated, and collectively implemented for data warehousing success. Many organizations fail to understand and embrace the full breadth of these components – how they interact and how they change over time. Lack of understanding brings confusion, misalignment, and failure to realize full value from data warehousing investments.

This online training course presents a holistic view of data warehousing components, concepts, and definitions. From a systems-thinking perspective, you'll see a framework that describes the building blocks and their interactions to generate real and measurable business value. The framework positions architecture as an essential foundation for a data warehousing system, then describes the five essential and enabling sub-systems of data warehousing.

You will learn:

- DW concepts and terminology
- The purpose and capabilities of successful DW and its roles in creating business value
- Roles and essential components of five critical sub-systems
- How the sub-systems interact to constitute a complete and cohesive DW system
- The common challenges & risks inherent in DW

This course is geared towards:

- DW teams who need to build a common foundation of concepts and terminology
- DW program and project managers
- Data warehouse architects
- Data warehouse designers and developers
- DW maintenance and support specialists
- Business and Data SMEs with data warehousing project roles and responsibilities
- Data Management Analysts
- Anyone who is new to data warehousing
- Anyone with an interest in the capabilities, opportunities and challenges of DW

Course Outline

About the Course (8 min)

Introduction to Data Warehousing (67 min)

- Fundamental Ideas
- Systems Concepts
- Architecture Considerations
- Systems View of Data Warehousing
- Data Warehousing System Review

Data Acquisition and Refinement (62 min)

- Getting Started
- Parts
- Exploration & Discovery System
- Refining & Integration System
- Transportation System

Data Provisioning and Retention (45 min)

- System Context
- Getting Started
- Parts
- Storage & Packaging System
- Technology System
- Inventory System

Information Delivery & Consumption (35 min)

- System Context
- Getting Started
- Parts
- Usage System
- Delivery System
- Content Quality System

Building and Development (58 min)

- System Context
- Getting Started
- Parts
- Participation System
- Construction System
- Asset & Process Quality System

Leadership and Control (34 min)

- System Context
- Getting Started
- Parts
- Stakeholder System
- Governance System

Putting the Pieces Together (24 min)

- Perspective & Alignment
- Data Warehousing System
- Course Summary

Building and Operating a Data Warehouse

Instructors: Mark Peco

Duration: 4.5 hours

Due to rapid growth of non-traditional data sources, availability of new technologies and growing expectations of managers to compete on analytics, the traditional data warehouse is re-defined and presented within a broader modern context. A corporate data ecosystem is evolving and presents new opportunities for creating business capabilities that were not previously possible. Amidst these changes, the data warehouse continues to play foundational and integral roles within the expanding data landscape.

This course re-defines the scope of the “modern” data warehouse. The need for planning and the role of architecture are described and clarified, followed by a discussion about the challenges related to gathering useful information requirements. This is followed by a discussion of design approaches, development, testing and quality management techniques.

The true value delivered to the organization by a data warehouse depends on operational and service activities that leverage the data components previously implemented. It is through this combination of data and technology assets with managed operations and services that desired analytical and business capabilities are created. The design and implementation approaches of operations and services are provided to highlight this key requirement. The course material presents a full life cycle of the data warehouse including business context, scope, requirements, design, implementation and operations.

You will learn:

- The components that define a data warehouse platform
- Trends that are impacting the modern data warehouse
- To position the data warehouse platform in the big data era
- Architectural options and considerations
- Development options and approaches
- The requirements gathering process
- Necessary design activities
- How operations and service processes enable business capabilities

This course is geared towards:

- Data warehousing program and project managers
- Data warehouse architects
- Data scientists and analytics professionals
- Big Data practitioners
- Data warehouse designers and developers

Course Outline

About the Course (8 min)

Introduction (54 min)

- **Overview**
- **Data and Information**
- **The Modern Data Landscape**
- **Generating Information**
- **The Need for Metadata**
- **Defining the Data Warehouse**
- **Implementation Approaches**

Planning and Architecture (71 min)

- Overview
- Implementation Planning
- Architecture Overview
- Requirements Analysis
- Information Requirements

Design and Development (73 min)

- Design Activities
- Design Decisions
- Design Example
- Development

Operations and Service Delivery (39 min)

- Overview
- Services
- Categories of Services
- Managing a Service Catalog
- Managing Performance

DW and BI Data Modeling

Instructor: Rick Sherman

Duration: 4.25 hours

A well designed data model is the cornerstone to building business intelligence and data warehouse applications that provide significant business value.

Effective data modeling results in transforming data into an enterprise information asset that is consistent, comprehensive and current. Data is transformed from operational or source systems into a data warehouse and often data marts or OLAP cubes for analysis. This course provides the fundamental techniques to designing the data warehouse, data marts or cubes that enable business intelligence reporting and analytics.

This online training course discusses the two logical data modeling approaches of Entity-Relationship (ER) and dimensional modeling. ER modeling is used to establish the baseline data model while dimensional modeling is the cornerstone to Business Intelligence (BI) and Data Warehousing (DW) applications. These modeling techniques have expanded and matured as best practices have emerged from years of experience in data modeling in enterprises of all sizes and industries. These techniques improve the business value of the data, enhance project productivity and reduce the time to develop applications.

You will learn:

- The basics of Entity-Relationship (ER) and dimensional modeling
- The benefits and applicability of Dimensional Data Modeling
- How to create Dimensional Data Models for BI and DW applications
- How to learn more about Data Modeling

This course is geared towards:

- Beginning Data Modelers
- Business Analysts and Architects
- Database Administrators and Analysts
- Information Technology Managers, Project Managers
- Application Development Project Team Members
- People involved in design and maintenance of Data Warehousing and Business Intelligence applications
- People involved in data quality or data governance processes

Course Outline

About the Course (6 min)

Introduction to Data Modeling (75 min)

- **Data Modeling Overview**
- **Entity-Relationship Modeling Overview**
- **Normalization**

Dimensional Modeling Basics (88 min)

- What is Dimensional Modeling?
- Facts
- Dimensions
- Schemas
- Entity-Relationship vs. Dimensional Modeling
- Purpose of Dimensional Modeling
- Fact Tables
- Dimensional Modeling Vocabulary

Advanced Dimensional Modeling (84 min)

- Hierarchies
- Slowly Changing Dimensions
- Rapidly Changing Dimensions
- Casual Dimensions
- Multi-Valued Dimensions
- Snow flaking
- Junk Dimensions
- Value Brand Reporting
- Heterogeneous Products
- How Swappable Dimensions
- Too Few or Too Many Dimensions
- Benefits of Dimensional Modeling

Data Integration Fundamentals and Best Practices

Instructor: Dave Wells

Duration: 5 hours

Integrated data is at the heart of many business and technical disciplines today. Data warehousing, operational data integration, and master data management focus on integration as a key part of managing data as an asset. Business intelligence, performance management, and business analytics depend on integrated data to meet business requirements for management and decision-making information. Integration is important, but it is challenging to understand data sources, select and apply integration techniques, and design and deliver integrated databases.

This online training course discusses architectures, requirements, methods, roles and activities of data integration that can be applied to achieve successful data integration projects for a variety of applications and circumstances.

You will learn:

- Concepts, principles, and terminology
- Common methods of data integration
- How to perform the essential steps of data integration including requirements definition, data capture, data transformation, and data delivery
- Data integration techniques and technologies including ETL, ELT, virtualization, and federation
- Techniques for source-to-target mapping and data transformation
- Roles, purpose, and variations of data integration architecture including architectural constructs for data warehousing, master data management, and operational data integration
- Business and technical roles, responsibilities, knowledge, and skills that are central to data integration projects and processes

This course is geared towards:

- Data integration architects, designers, and developers
- Business intelligence practitioners, project managers, and architects
- Data warehousing practitioners, project managers, and architects

- MDM practitioners, project managers, and architects
- ERP implementers and system integrators
- Business subject experts and data subject experts with roles in data integration projects and processes

Course Outline

About the Course (5 min)

Data Integration Concepts (44 min)

- Data Integration Defined
- Data Integration Dependent Programs
- Data Integration Projects

Data Integration Methods (49 min)

- Data Integration Techniques
- Data Integration Frequency
- Data Integration Systems
- Data Integration Challenges
- Data Integration Activities

Understanding Data (61 min)

- Identifying Data Sources
- Profiling Data
- Qualifying Data Sources
- Documenting Data Sources

Integrating Data (78 min)

- Integration Requirements
- Data Capture
- Data Transformation
- Data Delivery

Data Integration Architecture (37 min)

- Architecture Concepts
- Data Warehousing Architecture
- MDM Architecture
- Operational Data Integration Architecture

Data Integration Roles and Responsibilities (28 min)

- Overview
- Knowledge and Skills
- Understanding the Data
- Getting the Data
- Transforming the Data
- Delivering the Data
- Using the Data

Data Quality Fundamentals

Instructors: Dave Wells

Duration: 6 hours

Data quality is a large and complex field with many dimensions. Every data quality practitioner needs a foundation of concepts, principles, and terminology that are common in quality management. Building upon that foundation, they need to understand how quality management concepts and principles are applied to data, as well as the language and terminology that specifically apply to data quality..

This online training course provides an overview of the field of data quality with the goal of building strong foundational knowledge.

You will learn:

- Basic concepts, principles, and practices of quality management
- General quality management terminology
- Data-specific quality management terminology
- How quality management principles are applied to data

This course is geared towards individuals who:

- Are getting started in the data quality field
- are preparing for in-depth study of data quality and needs to start with the basics
- Work with data quality professionals and needs to understand what they do
- Need to "speak the data quality language"

Course Outline

About the Course (5 min)

Quality Basics (30 min)

- Quality Basics
- Quality Defined
- Quality and Defects
- Quality Economics

Quality Management (93 min)

- Quality Management Practices
- Quality Management Gurus
- Quality Management Methodologies
- Related Disciplines
- Measurement and Standards

Data Quality Basics (45 min)

- Data Quality Defined
- Data and Purpose
- Dimensions of Data Quality

Data Quality Management (74 min)

- Data Quality Processes
- Data Quality Techniques
- Data Quality Tools and Technology
- Data Quality Projects
- Building-In Data Quality
- Data Quality Organizations

“It has been a very good experience learning about DQ Assessment in a formal way!”
—Vikram Khanna, USA

Data Parsing, Matching and De-duplication

Instructors: Kathy Hunter, William McKnight, Henrik Sørensen

Duration: 4 hours, 20 minutes

Data parsing, standardization, matching, and de-duplication are the cornerstones of successful Master Data Management (MDM). They are also critical parts of successful data quality programs, and are key steps in building data warehouses as well as any data integration and consolidation initiatives. You could say that today few organizations can function effectively without implementing data parsing and matching processes often in many data domains.

This need is further magnified if your company has gone global and plans to create databases that combine name- and address-related data from all corners of the world. Managing global information effectively takes specialist knowledge and the ability to show consideration for the differences that exist throughout the world. Worldwide there are more than 10,000 languages, 130 address formats, 36 personal and hundreds of business name formats. All of these variables are further complicated by the need to respect national and regional cultures. Failure to consider formats, styles, and cultures has huge impact on quality of data and quality of business relationships.

This online training course is aimed at data quality and master data management (MDM) professionals as well as those responsible to work with global information. The field is broad and the details are many. The purpose of this course is to provide a broad and in-depth review of data parsing, standardization, matching, and de-duplication techniques, as well as extensive overview of specific problems and solutions when dealing with global data.

You will learn:

- Data parsing, standardization, matching, and de-duplication techniques
- How to find and use external reference data
- How data parsing and matching contribute to improving data quality, MDM, and data warehousing
- Which data domains, entities and data elements may benefit from data parsing and matching
- Challenges of global data and ways to overcome these challenges

This course is geared towards:

- Master data management professionals
- Data quality professionals
- Information architects
- Developers of data warehousing systems
- Business professionals who work with global data

Course Outline

About the Course (12 min)

Introduction (17 min)

Implementation Fundamentals (70 min)

- Parsing and Standardization
- Introduction to Data Matching
- Data Matching Techniques
- Data Matching Destinations
- Evaluating Data Matching Tools

External Reference Data (45 min)

- External Data Sources
- Syndicated Customer Data
- Syndicated Product Data
- Using the Web

Challenges of Global Data (58 min)

- Introduction to Global Information
- Global Data: What You Need to Know
- Variations by Country and Region
- Cultural and Legal Impacts
- Characters and Diacritics

Overcoming the Challenges of Global Data (59 min)

- Data Profiling
- Consistent Data Structures
- Preparing Global Data for Effective Use

“Absolutely excellent course: thought through and well delivered.”

—Marina Severinovskaya, USA

“Good information on global data!”

—Gregg Bostwick, USA

Data Profiling

Instructor: Arkady Maydanchik

Duration: 5 hours

Data profiling is the process of analyzing actual data and understanding its true structure and meaning. It is one of the most common and important activities in information management. Data profiling is the first critical step in many major IT initiatives, including implementing a data warehouse, building an MDM hub, populating metadata repository, as well as operational data migration and integration. It is also the key ingredient to successful data quality management.

While proliferation of commercial tools made data profiling accessible for most information management professionals, successful profiling projects remain elusive. This is largely because the tools allow gathering large volumes of information about data, but offer limited means and guidelines for analysis of that information.

In this online training course you will learn all practical skills necessary to succeed in a data profiling initiative.

You will learn:

- The what, why, when, and how of data profiling
- Various data profiling techniques, from simple column profiling to advanced profiling methods for time-dependent and state-dependent data
- How to efficiently gather data profiles
- How to analyze the data profiling information and ask the right questions about your data
- How to organize data profiling results
- How to perform dynamic data profiling and identify changes in data structure and meaning

This course is geared towards:

- Data quality practitioners
- MDM practitioners
- Metadata management practitioners
- IT and business analysts involved in data management
- Those responsible for implementation and maintenance of various data management systems

Course Outline

About the Course (5 min)

Quality Basics (30 min)

- Quality Basics
- Quality Defined
- Quality and Defects
- Quality Economics

Quality Management (93 min)

- Quality Management Practices
- Quality Management Gurus
- Quality Management Methodologies
- Related Disciplines
- Measurement and Standards

Data Quality Basics (45 min)

- Data Quality Defined
- Data and Purpose
- Dimensions of Data Quality

Data Quality Management (74 min)

- Data Quality Processes
- Data Quality Techniques
- Data Quality Tools and Technology
- Data Quality Projects
- Building-In Data Quality
- Data Quality Organizations

“Clear, well-structured and extremely useful.”

—Tatyana Loctionova, Russia

“I really enjoyed this course... I thought the material was of excellent depth and breadth.”

—Kari Jones, New Zealand.

Data Virtualization

Instructor: Dave Wells

Duration: 3 hours

The work of data integration has become increasingly complex in recent years. Business needs for real-time and low latency data, expanded uses of unstructured data, and accelerated interest in big data analytics are but a few of the trends that change the data integration landscape. Extract-transform-load (ETL) processing was sufficient for the once relatively simple task of combining data from multiple transactional databases was to build a data warehouse, operational data store, or master data hub. Today's data integration challenges go well beyond the capabilities of ETL technologies with needs to integrate enterprise data with external data, Web data, clickstream data, end-user data, big data, cloud data, and more. To meet these new requirements, data integrators need more tools in the integration toolbox. Data virtualization doesn't replace ETL; it complements ETL and offers new tools to meet new integration needs.

Data virtualization is a core component of next-generation data integration architectures, techniques, and technology. This online training course will introduce you to the concepts, techniques, and capabilities of data virtualization. It will prepare you to expand your data integration capabilities, deliver business-speed information, and make the most of recent advances in data integration technology.

You will learn:

- Data virtualization definitions, concepts, and terminology
- Business case and technical rationale for data virtualization
- Foundational principles of virtualization – abstraction, views, and services
- How to extend the data warehouse with virtualization
- How virtualization is applied for unstructured data, big data, and cloud data challenges
- How to mix and match virtualization with ETL technology to optimize data integration architectures and processes

This course is geared towards individuals who:

- BI, MDM, and data warehousing program and project managers
- Data integration architects, designers, and developers
- Data and technology architects

Course Outline

About the Course (6 min)

Data Virtualization Concepts and Principles (29 min)

- Overview
- Data Virtualization Basics
- Why Data Virtualization
- The Data Virtualization Foundation
- Review

Data Integration Architecture (19 min)

- Overview
- Integration Architecture Concepts
- Reference Architectures
- Integration Architecture Examples
- Review

Data Virtualization in Integration Architecture (49 min)

- Overview
- Virtualization in Data Integration Projects
- Data Virtualization Use Cases
- Data Warehousing Use Cases
- Data Federation Use Cases
- MDM and EIM Use Cases
- More Data Virtualization Applications
- Practical Data Virtualization
- Review

Data Virtualization Platforms (20 min)

- Overview
- Platform Requirements
- Platform Capabilities
- Platform Variations
- Some Platform Vendors
- Review

Implementing Data Virtualization (16 min)

- Overview
- Analysis
- Design and Modeling
- Development
- Deployment and Operation
- Review

Getting Started with Data Virtualization (28 min)

- Overview
- Skills, Competencies, and Human Factors
- Goal and Expectations
- Best Practices
- Case Studies
- Review

Ensuring Data Quality in Data Integration

Instructor: Arkady Maydanchik

Duration: 5 hours

Corporate data universe consists of numerous databases connected by countless real-time and batch data interfaces. The data continuously move about and change. The databases are endlessly redesigned and upgraded, as are the programs responsible for the data integration. The typical result of these dynamics is that information systems get better, while data quality deteriorates. Without a comprehensive data quality monitoring program bad data spread like viruses.

This online training course discusses various practices that can be put in place to mitigate the problem and maintain high data quality through data integration.

You will learn to:

- The data quality challenges that are inherent in data integration
- The critical role of data quality monitoring in data integration
- Specific techniques to monitor and manage quality for batch data integration
- Use of Statistical Process Control (SPC) methods in monitoring data quality
- The impacts of change on data quality and techniques to address those impacts
- How an enterprise integration hub can be applied to managing data quality

This course is geared towards:

- Data integration practitioners
- Data quality practitioners
- Data warehousing practitioners
- MDM practitioners
- Others in the trenches involved in design, development, and maintenance of data integration systems

Course Outline

About the Course (8 min)

Introduction (60 min)

- Data Integration Basics
- Data Quality in Data Federation
- Data Quality in Data Consolidation
- Data Quality in Real-Time Interfaces
- Data Quality in Batch Interfaces
- Beyond Monitoring

Data Consolidation and Cleansing (60 min)

- Data Quality in Data Conversion
- Data Cleansing
- Data Quality in Data Consolidation

Error Monitors in Batch Interfaces (77 min)

- Monitoring Techniques
- Batch Integrity Rules
- Master Data Integrity Rules
- Dynamic Integrity Rules
- Monitor Management
- Error Correction
- Root Cause Analysis
- Statistical Process Control

Change Monitors in Batch Interfaces (95 min)

- Examples
- Change Monitor Defined
- Which Metrics to Monitor
- Implementing the Monitors
- Heuristic Monitors
- Basic Statistical Monitor
- Handling Non-Stationary Data

Data Integration Techniques for Designing ODS

Instructors: Angelo Bobak

Duration: 3 hours

In today's modern business environment, corporate entities are constantly merging or splitting, internal divisions are sold to different companies, and new business lines are created in order to meet the challenges of difficult economic times. Business data integration is a complex problem that must be solved when organizations change or enhance their internal structures. New IT departments must be merged with old ones, and transactional, operational, and master data must be integrated in order to be managed efficiently, if the business is expected to grow and be profitable.

The goal of this course is to present a simple yet thorough process that describes the challenges of business data integration and the solutions to these challenges. It will show you how the application of a technique called "schema integration" addresses these challenges.

Schema integration is both a theory and process that was pioneered by experts in the field of data management. We will discuss the techniques of two of these pioneers, M. Tamer Ozsü and Patrick Valduriez in the design of an Operational Data Store (ODS) for a small business..

You will learn:

- The underlying architecture of the Operational Data Store (ODS)
- The different types of ODS Architectures
- The theory behind schema integration
- The schema integration process
- Identifying and resolving data conflicts when integrating data
- The importance of master data and data quality in schema integration

This course is geared towards:

- The Logical and Physical Data Modeler
- The Data Architect
- The Database Administrator
- Project Managers
- Data Warehouse Architects
- Anyone wishing to enter the field of database design and ODS implementation

Course Outline

About the Course (4 min)

Introduction to Operational Data Stores (45 min)

- Overview
- What is an ODS
- Master Data and The ODS
- Data Quality and the ODS
- Loading the ODS
- ODS and Data Warehouse Architectures

Theory of Schema Integration (58 min)

- Overview
- Data Integration Pioneers
- Schema Integration Types
- Schema Integration Process
- Resolving Data Conflicts
- Profiling Data
- Defining the ETL Specifications to Merge Data
- Tracking Data Lineage
- Schema Integration ETL Tools

Maintenance (30 min)

- Overview
- Adding New Sources
- Adding New Destinations
- Modifying Existing Sources
- Modifying Existing Destinations
- Retiring Old Sources
- Retiring Existing Destinations
- Managing Security and Access
- Monitoring and Managing Storage Capacity
- Monitoring Performance
- Physical Design Techniques to Increase Performance
- Key Project Roles and Responsibilities

Case Study (38 min)

- Overview
- Databases to Integrate
- Data Dictionaries
- Tools You Will Need
- Performing the Integration
- Concluding Remarks

OUR INSTRUCTORS

Angelo Bobak

Angelo Bobak is a seasoned data architecture professional and published author with over 20 years' experience in Business Intelligence, Data Architecture, Data Modeling, Master Data Management, and Data Quality. Currently he is working at ATOS Origin NA as a Director/Senior Data Architect in the areas of Global Master Data Management, Data Integration and Data Quality. Past experience includes positions as an IT consultant, manager and data architect with companies such as Siemens, Praxair, Avaya, Pepsi and several financial institutions on Wall Street such as Merrill Lynch, Bankers Trust and International Securities Exchange (ISE)..

Kathy Hunter

Kathy always says she has data in her blood. Joining Harte-Hanks in 2002, she built an information management practice and, with her highly skilled team, was responsible for instituting their highly successful Global Data Management solution set. From information quality and data governance through to providing global data solutions and guidance she attained a reputation for expert knowledge and successful delivery in global information management to her clients. Kathy is known for her pragmatic approach to topics, providing helpful hints and practical examples in order to solve tough problems.

Arkady Maydanchik

For more than 20 years, Arkady Maydanchik has been a recognized leader and innovator in the fields of data quality and information integration. As a practitioner, author and educator he has been involved in some of the most challenging projects industry has seen. These projects were often the result of major corporate mergers and the need to consolidate and integrate databases of enormous variety and complexity. Arkady's client list includes such household names as Dun & Bradstreet, Hewitt Associates, Kimberly Clark, Raytheon, Sprint, Verizon, and Xerox.

Mark Peco

Mark Peco is an experienced consultant, educator, practitioner and manager in the fields of Business Intelligence and Process Improvement. He provides vision and leadership to projects operating and creating solutions at the intersection of Business and Technology. Mark is actively involved with clients working in the areas of Strategy Development, Process Improvement, Data Management and Business Intelligence.

Rick Sherman

Rick is the founder of Athena IT Solutions, a Boston area business intelligence and data warehousing consulting firm that provides solutions for customers of all sizes and industries. His hands-on experience includes a wide range of data integration tools. Rick also teaches data warehousing, data integration and business intelligence for a masters' degree program at Northeastern University's graduate school of engineering. He is a published author of more than a hundred articles in publications such as Information Management and SearchDataManagement.com, an industry speaker at gatherings including The Data Warehousing Institute (TDWI) and DAMA, and has been quoted in CFO and BusinessWeek.

Henrik Sørensen

Henrik Liliendahl Sørensen has over 30 years of experience in working with Master Data Management and Data Quality and is a charter member of the International Association of Information and Data Quality. Currently Henrik works with Master Data Management at Tata Consulting Services and as Practice Manager at Omikron Data Quality besides writing on a well trafficked blog about data quality, master data management and the art of data matching. Henrik is the founder of the Data Matching and the Multi-Domain MDM groups on LinkedIn.

Dave Wells

Dave Wells is a consultant, teacher, and practitioner in the field of information management. He brings to every endeavor a unique and balanced perspective about the relationships of business and technology. This perspective —refined through a career of more than thirty-five years that encompassed both business and technical roles— helps to align business and information technology in the most effective ways. Dave is a frequent contributor to trade publications and is a co-author of the book *BI Strategy: How to Create and Document*. He also speaks at a variety of industry events

OUR CUSTOMERS

eLearningCurve has over 2,500 students in 70+ countries around the globe. Our enterprise customers include numerous Fortune 500 and Global 1,000 companies as well as governmental institutions in various countries.



CUSTOMER STORIES

“I would highly recommend eLearningCurve to anyone thinking of getting their certification in the data field”

Having started the certification program with a very limited knowledge base in the area of data quality, I was a little intimidated and unsure of what to expect. My concerns were quickly alleviated by the quality of instructors and course materials and the superb delivery method of the classes. Classes in the curriculum built upon each other, giving you a great base in the topic and then continuing to build on that foundation. There were no "throwaway" classes in that principles were taught and reinforced as you progressed along your journey to certification.

I would highly recommend eLearningCurve to anyone thinking of getting their certification in the data field and to anyone looking for a greater understanding of the data profession. I could not be happier with the courses and knowledge that I gained through this program.

Joseph Fagnoni, CIMP – Data Quality, Data Governance, USA

“I was very pleased with the courses and the certification process with eLearningCurve.”

I was very pleased with the courses and the certification process with eLearningCurve. The individual courses were very well prepared and clearly presented. I believe that this knowledge is critical for both novice and experienced data management professionals.

Clarence W. Hempfield, Jr., CIMP – Data Quality, USA

“The selection of classes available through eLearningCurve have provided me incredible insight and more information on best practices...”

In Australia, it is not often you get the chance to study under international industry thought leaders and gurus. Actually, I misspeak, it is often. It is whenever you like thanks to eLearningCurve's online delivery!

These days it is common place for professionals to learn tools and software but not focus on methodology. The selection of classes available through eLearningCurve have provided me incredible insight and more information on best practice and methodology than any other conference or training course I have attended thus far in my career. The material is challenging, thought provoking, and extremely informative. The tests require focus and understanding beyond the point of remembering the words said - they push you to apply the principles. You get plenty of time to access and review the material, so anyone can fit this in around their busy schedule.

Stuart Brown, CIMP - Data Governance, Australia

“Very clear, well-structured, with interesting examples and based on extended practical experience.”

After eLearningCurve courses, I have realized that in the last 3 years:

- We created data quality rules catalogue.
- We implemented our Error Monitors and few Change Monitors.
- We started to use data quality control in source, staging and target DB area.

But all these solutions could be initially designed much better with the knowledge, which I have received now with eLearningCurve.

The instructors and courses material are really of great value. Very clear, well-structured, with interesting examples and based on extended practical experience. I would certainly recommend the certification for any professional interested in gaining a better understanding of Data Governance and definitely for any data quality practitioner.

Tatyana Loctionova, CIMP – Data Quality, Russia

“As a team leader I expect this to improve considerably the team performance.”

I have acquired CIMP in Data Quality recently. I have been working in Data Quality field for 10 years and this certification helped me to deepen and structure my knowledge. To pass the CIMP examination one needs deep understanding of the subject and the ability to apply the knowledge in different everyday situations. I have some colleagues who have recently started their "way in data quality field" and I have recommended they take the certification. As a team leader I expect this to improve considerably the team performance. I also want to point out the attitude of people working for eLearningCurve: I have always received the necessary support or recommendations whenever asked. This made the learning process not only valuable from knowledge acquirance point of view but also very pleasant from emotional point of view.

Ilze Smeltere, CIMP - Data Quality, Latvia

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We offer discounts to Enterprise customers who purchase in bulk. Please contact us for more information.

About eLearningCurve

eLearningCurve offers comprehensive online education programs in various disciplines of information management. With eLearningCurve, you can take the courses you need when you need them from any place at any time. Study at your own pace, listen to the material many times, and test your knowledge through online exams to ensure maximum information comprehension and retention.

eLearningCurve also offers two robust certification programs: CIMP & CDS. Certified Information Management Professional (CIMP) builds upon education to certify knowledge and understanding of information management. Certified Data Steward (CDS) is a role-based certification designed for the fast growing data stewardship profession.

Finally, eLearningCurve's Enterprise Program is a flexible, scalable, cost-effective solution for teams and enterprises.