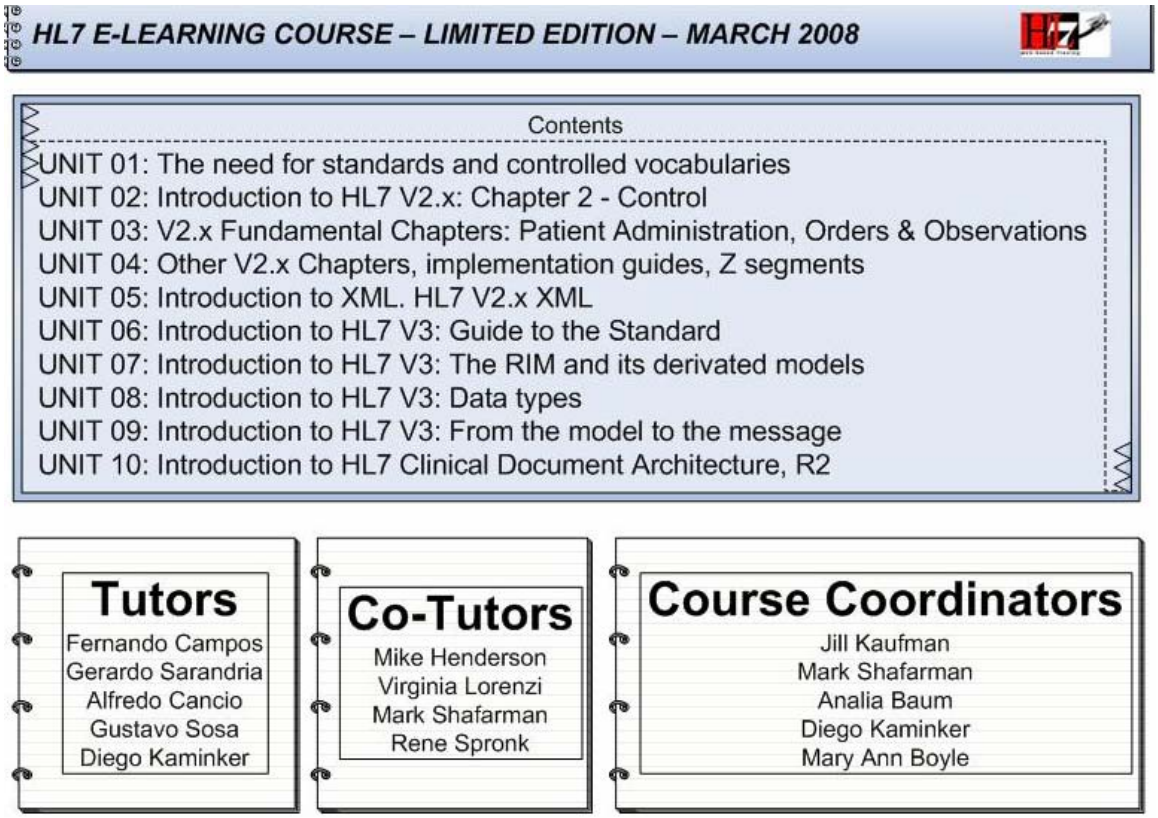

WELCOME TO THE HL7 e-LEARNING COURSE

This is the Limited Edition 2008 of the HL7 e-learning course.
We hope you enjoy this course and that everything you are going to learn will be useful in your future endeavors.

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BASIC CONCEPTS

Information exchange requires syntactic and semantic rules in order to ensure the proper transmission, sharing and processing of data or messages. This is especially true in the realm of health care, where patients' health can rely on the quick and accurate sharing of information. Defining this set of syntactic and semantic rules, allowing for the effective capture, storage and transmission of health care information, falls under the general area of Biomedical Informatics.

Initially, as health care institutions began to automate their information management (IM) processes, their initiatives focused primarily on the reduction of paper processing, particularly in the administrative accounting area. More recent IM process initiatives have focused on improvements in areas such as ambulatory care and in-patient care and ancillary services to such an extent that the goal now is the integration of all health care related information, and the development of an integrated electronic health record.

Many health organizations continue to rely on disparate systems, many of them based on older legacy systems. While systems such as billing and accounting may be able to share information, very few systems take a comprehensive view of health care data. This results in informational inefficiencies at many stages as patients move through the health care system, for instance as they move from a general practitioner's office to a testing facility to a specialist's office, none of which has the ability quickly communicate, coordinate and share information. The inefficiencies created by these 'islands' of information create, at the least, added expense and frustration.

Driven both by a desire to improve quality of care and decrease administrative time and expense, health care organizations are beginning to look towards fully integrating all of the information systems. The goal is to capture information one time, at the site it is generated, with all the key attributes needed to later share that information among all potential perspectives – administrative, accounting, legal, education, epidemiological, clinical, etc. Such integration relies on a full set of comprehensive and semantically-coherent messaging standards.

The goal of this course, then, is to introduce the key concepts of electronic messaging interoperability in the health care arena. The course objectives include:

- Introducing students to the key concepts in electronic messaging standards and communication, focusing on the implementation of the HL7 messaging system
- Helping students to understand and apply the Reference Information Model (RIM) in instances of data exchange
- Helping students to understand and apply a reference model for the exchange of clinical document, and
- Helping students to understand how the above can work together in the creation of a consolidated, integrated health care information management system

Directors and Teaching staff

Course Coordinators
Analía Baum
Diego Kaminker
Jill Kaufman
Mark Shafarman
Mary Ann Boyle

Tutors
Alfredo Cancio (HL7 V2.x)
Diego Kaminker (HL7 V3 and CDA R2)
Fernando Campos (HL7 V2.x and CDA R2)
Gerardo Sarandria (HL7 V2.X)
Gustavo Sosa (XML)

Co-Tutors
Mark Shafarman (HL7 V3)
Mike Henderson (HL7 V2.x)
Rene Spronk (CDA R2)
Virginia Lorenzi (HL7 V3)

Who should attend this course?

This course is directed towards application developers, software engineers, care providers, software vendors, consultants in information technology and anyone who is interested in acquiring tools that will enable them to properly handle the implementation of healthcare information standards.

As this is a virtual course students need to know how to navigate through a web site in order to access the course resources.

This course also requires fluency in reading/writing the English language.

GENERAL PURPOSES OF THE COURSE

At the end of the course, participants should:

- Understand how to confront a project involving interoperability among disjointed healthcare information systems
- Understand how to read the most widely used HL7 standards
- Understand the need for controlled vocabularies, master files, and entity registries
- Read and write V2.X messages
- Read and write V3 messages
- Read and write CDA R2 documents.
- Understand when to use each HL7 artifact (messages, documents).

Structure and objectives of the program course

This Course is divided into 10 units, each one structured as a class with defined objectives. They are:

Unit 1: Introduction to the World of Standards
This unit will address the basic concepts of interoperability and the value of controlled vocabularies. You will learn about categories of existing standards in the health area and their necessity.

Unit 2: Introduction to Version 2.x
This unit introduces the concepts underlying the HL7 V2 messaging standard, a widely used global standard. The data types presented here form the basis for much of the subsequent course and further detail on them will be provided in later units.

Unit 3: The Chapters of Version 2
This unit introduces several 'core' Version 2.x chapters, focusing on patient administration, orders and results.

Unit 4: Version 2 Implementation Guide, Z-Segments
This unit covers the use of Z-segments, a basic tool for the construction of an interface for an HL7 V2 implementation.

Unit 5: Extensible Markup Language (XML)
This unit covers XML (extensible markup language),the language used to represent messages in HL7's Version 3 standard. XML plays an increasingly important role in data exchange, as its format allows data to be read across various applications.

Unit 6: Introduction to Version 3
This unit provides an introduction to the Version 3 standard including the rationale for the new version and models. Also included is a brief guide to the V3 standard to help in navigating the various V3 structures and domains.

Unit 7: Reference Information Model (RIM)
This unit details the structure of the Reference Information Model (RIM), the heart of the Version 3 standard.

Unit 8: V3 Datatypes
This unit details theV3 data types, the basic building blocks for V3 messages.

Unit 9: Version 3-From the Model to the Message
This unit provides a step-by-step overview of the various V3 message abstract models to their XML implementation.

Unit 10: Clinical Document Architecture (CDA)
This unit introduces the Clinical Document Architecture (CDA), a standard enabling the exchange of clinical documents, as well as reviewing the structure of CDA. This unit will review examples of documents and implementation guides.

The 10 units of this course will be conducted over a 10 week period (one unit per week). The student should plan for an estimated average of 5 hours of course work per week, taking into account the topics of study and background of students.

METHODOLOGY

The course was developed using the Virtual Campus of the HL7 Argentina Association. It is based on a educational model for collaborative learning taking advantage of the Internet.

Each unit has specific educational resources selected and prepared by the teaching staff. Course material will be available weekly on the Virtual Campus.

These resources include:

- Study guides facilitating the student learning process
- Reading materials developed by teachers
- Application Activities using course acquired knowledge
- Links to other interesting sites or reading material

The activities will promote the exchange and use of knowledge and experiences of students as well as facilitate the implementation of new apprenticeships to professional practice. The activities will include:

- Mandatory weekly assignments: activity required for approval of course completion. Assignments specified as mandatory will have to be complete and uploaded to HL7 Campus site before the deadline specified by the tutor
- Optional weekly assignments: These are not required for course approval but they are available for student practice. Within this category you will find quizzes that will allow reviewing and integrating the concepts developed on the course.

What else should I know?

The course has virtual classrooms; each one has a maximum of 25 students and one tutor. The role of the teacher is to assist during the module, respond to student questions, after class reading and doing weekly assignments.

The tutors will guide and encourage the learning process and will reply to your questions within two week days. Even though the tutors are there to assist you, we also encourage and recommend that students help each other.

COMMUNICATION

Online forums will be the place of communication allowing interaction between those taking the course.

By subscribing to a forum, every participant will receive copies of messages in their e-mail box. Subscription may be required. If subscription is required, your Tutor can register you.

CERTIFICATION

The approval of this course is a requirement for the certification; however, students can attend it regardless of course completion certification.

If students want to receive an Official Course Completion Certificate, they must satisfactorily complete all mandatory assignments in the specified timeframe. HL7 Argentina Association issues this certificate.

This course does not issue Hl7.org certifications. You can take official HL7 certification in your country on HL7 V2 and on HL7 CDA. This is a separate process. This course will teach material that will help you prepare for the certification exam. Many HL7 Affiliates also offer face to face classes to prepare for the HL7 certification exam.

This course is estimated to take about 50 hours to complete.

For further information or inquiries please contact your affiliate coordinator or course coordinators.