Notes to Instructors

This Instructor Manual is a resource for instructors using this component. Each component is broken down into units, which include the following elements:

- Learning objectives
- Suggested student readings, texts, reference links to supplement the narrated PowerPoint slides
- Lectures (voiceover PowerPoint in Flash format); PowerPoint slides (Microsoft PowerPoint format), lecture transcripts (Microsoft Word format); and audio files (MP3 format) for each lecture
- Self-assessment questions reflecting Unit Objectives with answer keys and/or expected outcomes
- Application Activities (e.g., discussion questions, assignments, projects) with instructor guidelines, answer keys and/or expected outcomes
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Likewise, the above also applies to the Curriculum Development Centers (including Columbia University, Duke University, Johns Hopkins University, Oregon Health & Science University, University of Alabama at Birmingham, and their affiliated entities).
Component Overview

This component will provide an overview of learning management systems, instructional design software tools, teaching techniques and strategies, evaluation of learner competencies, maintenance of training records, and measurement of training program effectiveness. In addition, this component will discuss selecting and implementing Web 2.0 technologies as instructional technologies given a specific platform and training programs.

Component Objectives

At the completion of this component, students will be able to:

1. Plan, design, develop (produce), deliver, and evaluate technology-based instruction according to sound instructional design models and principles.
2. Describe the training cycle by the Instructional Systems Design method and the phases of the ADDIE model of instruction design given a population of adult learners.
3. Plan and implement an instructional needs assessment given a specific population of users in a health care setting.
4. Construct a lesson plan using appropriate instructional methods and approaches, given a specific population of learners.
5. Construct an instructional product (simple online tutorial) using the appropriate media based instructional method, such as customized images, customized video (e.g., EHR screen captures).
6. Create a custom PowerPoint presentation using the principles of effective PowerPoint design given a particular training program.
7. Demonstrate effective public speaking skills and proper operation of computer and AV equipment for a multimedia presentation, given a set of user needs.
8. Plan and conduct student assessment and program evaluation given different population contexts.
9. Design a training program in LMS that adhere to the standards and open source initiatives in online learning.
10. Select and implement Web 2.0 technologies as instructional technologies given a specific platform and training program.
Component Authors

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Columbia University, New York, NY

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Dr. Zimmerman manages the Health Sciences office of CCNMTL, working with a dedicated Health Sciences-CCNMTL staff and faculty at all of the Health Sciences Schools to develop course Web sites and major projects. Dr. Zimmerman coordinates the clinical, research, and educational informatics initiatives at the dental school and is director of the Dental Informatics Fellowship program. Dr. Zimmerman has experience designing online curricula through his prominent role at CCNMTL.

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Principle Investigator, Columbia University
Component 20/Unit 1

Unit Title
Introduction to Training and Adult Learning

Unit Description
This unit will apply the Instructional Systems Design method and the phases of the ADDIE model of instruction design, to a given population of adult learners.

Unit Objectives
By the end of this unit, the student will be able to:
1. Define the levels of learning per Bloom’s Taxonomic Domains (Cognitive, Affective, Psychomotor)
2. Describe the characteristic of adult learners and factors that could impact training design and learning outcomes
3. Describe the recommended training cycle of the Instructional Systems Design method
4. Describe the five phases of ADDIE model of instructional design

Unit Topics / Lecture Titles
1. Introduction to Training and Adult Learning
2. Principles of Adult Learning
3. Training Cycle

Unit References
(All links accessible as of 1/1/2014)

Books & Journals


Websites


*Indicates this link is no longer functional. 

Health IT Workforce Curriculum Training and Instructional Design Version 3.0/Spring 2012

This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000003.
Lecture b Images
Slide 22:
- Source Own work - Author K. Aainsqatsi. Permission (Reusing this file) Original was Multi-license with GFDL and Creative Commons CC-BY 2.5

Slide 26:

Suggested Readings

Websites

*Indicates this link is no longer functional.

Books

Student Application Activities
comp20_unit1_discuss.doc
comp20_unit1_discuss_key.doc
comp20_unit1_self-assess.doc
comp20_unit1_self-assess_key.doc

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Component 20/Unit 2

Unit Title
Needs Analysis

Unit Description
This unit will discuss planning and implementing an instructional needs assessment, given a specific population of users in a health care setting.

Unit Objectives
By the end of this unit the student will be able to:
1. Identify an instructional design problem for a given group of learners and a training setting.
2. List a range of useful data collection methods for conducting needs assessments in healthcare settings.
3. Identify the principles of the planning and implementation process of an instructional needs assessment in a health organization setting.
4. Analyze learner, task, and situational characteristics.
5. Recognize the special training needs and constraints in a health care setting [such as, time constraints and work pressures, resistance to change, impact of system on work flow and patient care, security requirements for EHRs, etc.]
6. Project instruction plans based on data gathered from a needs assessment.

Unit Topics / Lecture Titles
1. Need Analysis
2. Need Analysis/ADDIE

Unit References
(All links accessible as of 1/1/2014)

Books & Journals

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Health IT Workforce Curriculum Training and Instructional Design 12

Version 3.0/Spring 2012

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Suggested Readings

Websites
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Books

Student Application Activities
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Health IT Workforce Curriculum Training and Instructional Design
Version 3.0/Spring 2012
This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000003.
Component 20/ Unit 3

Unit Title
Creating a Lesson Plan

Unit Description
This unit will demonstrate how to construct a lesson plan using appropriate instructional methods and approaches, given a specific population of learners.

Unit Objectives
By the end of this unit the student will be able to:
1. Write measurable goals and learning objectives for a training program which meet the SMART criteria (Specific, Measurable, Attainable, Relevant, and Time-bound)
2. Write specific learning objectives based on Bloom’s Taxonomy, classifying learning from the simplest to the most complex levels.
3. Write learning objectives that are tied to needs analysis and outcomes
4. Select appropriate activities for training objectives
5. Identify the appropriate instructional approaches tied to a needs analysis, situational characteristics, and subject matter domain when designing a lesson plan.

Unit Topics / Lecture Titles
1. Creating a Lesson Plan
2. Writing a Lesson Plan & Objectives
3. Blooms Taxonomy
4. Objectives Tied to Need Analysis
5. EHR Intake Learning Objectives
6. Instructional Materials

Unit References
(All links accessible as of 1/1/2014)

Books & Journals

*Indicates this link is no longer functional.

This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000003.

Suggested Readings

Websites
Books

Student Application Activities
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comp20_unit3_self-assess.doc
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Health IT Workforce Curriculum Training and Instructional Design 17
Version 3.0/Spring 2012
This material was developed by Columbia University, funded by the Department of Health and Human Services, Office of the National Coordinator for Health Information Technology under Award Number 1U24OC000003.
Component 20/ Unit 4

Unit Title
Selecting and Working with Media

Unit Description
This unit will how to construct an instructional product (simple online tutorial) using appropriate media, such as customized images, customized video (e.g., EHR screen captures).

Unit Objectives
By the end of this unit the student will be able to:
1. Select appropriate instructional media for a given lesson plan and objectives/goals.
2. Select and customize images to embed in training materials
3. Select and customize video (e.g., EHR screen captures) to embed in training materials
4. Design simple online tutorials using screen capture software

Unit Topics / Lecture Titles
A. Text – desktop publishing, creating handouts and web content
B. Images – working with graphics and photographs to enhance learning
C. Video and Audio – use simple editing programs and publish content to online environment
D. Interactive Media – create simple online tutorials using screen capture software

Unit References
(All links accessible as of 1/1/2014)

Books & Journals


**Suggested Readings**

**Websites**


**Books**


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Student Application Activities

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comp20_unit4_self-assess.doc
comp20_unit4_self-assess_key.doc
Component 20/ Unit 5

Unit Title
Building & Delivering Effective PowerPoint Presentation

Unit Description
This unit will describe how to create a custom PowerPoint presentation using the principles of effective PowerPoint design, given a particular training program and learner population.

Unit Objectives
By the end of this unit the student will be able to:
1. Construct a script or storyboard for a presentation
2. Design a custom slide background for a training program
3. Demonstrate the appropriate use of color and text in a presentation
4. Embed graphics and video in a presentation
5. Demonstrate the appropriate use of ‘builds’ and ‘actions’.
6. Use the PowerPoint graph and chart functions for designing instructional materials.
7. Assess the training environment
8. Modify a presentation to compensate for presentation constraints
9. Demonstrate effective public speaking skills
10. Operate necessary computer and AV equipment to make an effective multimedia presentation

Unit Topics / Lecture Titles
A. Design guidelines for PowerPoint stacks
B. Scripting and Storyboarding
C. The Utilization of Color and Text in PowerPoint Presentations
D. The Utilization of Text in PowerPoint Presentations
E. The Appropriate Utilization of Multimedia in PowerPoint Presentations
F. Slide Frame Layout, Format Design, Color, Text Styles and Size
G. Graphs and Charts
H. Embedding Media and Actions

Unit References
(All links accessible as of 1/1/2014)
Websites

Suggested Readings

Books

Websites

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Student Application Activities
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Component 20/ Unit 6

Unit Title
Assessments

Unit Description
This unit will discuss how to conduct student outcome assessments and program evaluations in given training contexts.

Unit Objectives
By the end of this unit the student will be able to:
1. Design appropriate assessment/testing instruments and procedures aligned with instructional goals/objectives.
2. Administer assessments as a component of training/instructional design.
3. Conduct formative evaluations in one-on-one and group contexts.
4. Specify revisions to instruction resulting from the formative evaluations.

Unit Topics / Lecture Titles
A. Developing Appropriate Assessments
B. Creating a Program Evaluation Plan

Unit References
(All links accessible as of 1/1/2014)

Websites

Journals/Books

Suggested Readings

Books

Websites

*Indicates this link is no longer functional.
Student Application Activities
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Component 20/ Unit 7

Unit Title
Learning Management Systems

Unit Description
Design a training program in Learning Management Systems (LMS) that adhere to the standards and open source initiatives in online learning.

Unit Objectives
By the end of this unit the student will be able to:

1. Describe the basic functions and technologies in Learning Management Systems (LMS), Content Management Systems (CMS), Reusable Learning Objectives (RLO), and Learning Content Management Systems (LCMS)
2. Identify the role of standards and open source initiatives in online learning
3. Describe why an instructional designer would SCORM
4. Give two approaches to modify e-learning content to meet Section 508 Compliance guidelines
5. Build a training program in an LMS using appropriate standards for online learning

Unit Topics / Lecture Titles
A. The Basic Functions and Technologies in LMS and CMS Systems
B. How to Build a Training Program in an LMS
C. The Role and Application of Standards and Open Source Initiatives in Online Learning: SCORM, Sakai, Moodle

Unit References
(All links accessible as of 1/1/2014)

Websites

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Journals/Books


Suggested Readings

Books


Websites


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Student Application Activities
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Component 20/ Unit 8

Unit Title
Web 2.0 and Social Networking Tools

Unit Description
This unit will focus on how to select and implement Web 2.0 technologies as instructional technologies given a specific platform and training program.

Unit Objectives
By the end of this unit the student will be able to:
1. Distinguish between synchronous and asynchronous learning
2. Use basic functions of an LMS or CMS
3. Utilize different tools within the design and delivery of online training
4. Select an appropriate platform for a particular training program

Unit Topics / Lecture Titles
This module will cover the use of electronic social networking tools, and informatics knowledge exchange to foster learning in a corporate environment. These tools include:
A. Wikis
B. Blogs

Unit References
(All links accessible as of 1/1/2014)

Websites

*Indicates this link is no longer functional.


Journals/Books


Suggested Readings

Books


Websites:


*Indicates this link is no longer functional.


Student Application Activities
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## Component Acronym Glossary

<table>
<thead>
<tr>
<th>Acronym</th>
<th>Definition</th>
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<tbody>
<tr>
<td>A/V</td>
<td>Audio Visual</td>
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<tr>
<td>ADDIE</td>
<td>Analysis, Design, Development and Implementation</td>
</tr>
<tr>
<td>ASTD</td>
<td>American Society for Training and Development</td>
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<tr>
<td>BMP</td>
<td>Windows bitmap format</td>
</tr>
<tr>
<td>CD-ROM</td>
<td>Compact Disc read only memory</td>
</tr>
<tr>
<td>CMS</td>
<td>Content Management Systems</td>
</tr>
<tr>
<td>DPI</td>
<td>Dots per Inch</td>
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<tr>
<td>DVD</td>
<td>Digital Video Disk</td>
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<tr>
<td>EoHR</td>
<td>Electronic Oral Health Records</td>
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<tr>
<td>FAQ</td>
<td>Frequently Asked Question</td>
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<tr>
<td>GIF</td>
<td>Graphics Interchange Format</td>
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<tr>
<td>HR</td>
<td>Human Resource</td>
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<tr>
<td>I4cp</td>
<td>Institute for Corporate Productivity</td>
</tr>
<tr>
<td>ITRAIN</td>
<td>International Association of Information Technology Trainers</td>
</tr>
<tr>
<td>JPEG</td>
<td>Joint photographic experts group</td>
</tr>
<tr>
<td>KSA</td>
<td>Knowledge, Skill, Attitude</td>
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<tr>
<td>KSAs</td>
<td>Knowledge, skills and attributes</td>
</tr>
<tr>
<td>LCMS</td>
<td>Learning Content Management Systems</td>
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<tr>
<td>LMS</td>
<td>Learning Management Systems</td>
</tr>
<tr>
<td>MERLOT</td>
<td>Multimedia Educational Resource for Learning and Online Teaching</td>
</tr>
<tr>
<td>MPEG</td>
<td>Moving picture experts group</td>
</tr>
<tr>
<td>OJT</td>
<td>On the Job Training</td>
</tr>
<tr>
<td>PNG</td>
<td>Portable Network Graphics</td>
</tr>
<tr>
<td>PPI</td>
<td>Pixels Per Inch</td>
</tr>
<tr>
<td>RLO</td>
<td>Reusable Learning Objectives</td>
</tr>
<tr>
<td>RSS</td>
<td>Really Simple Syndication</td>
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<tr>
<td>SCORM</td>
<td>Sharable Content Object Reference Model</td>
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<tr>
<td>SD model</td>
<td>Instructional systems development models</td>
</tr>
<tr>
<td>SMBI</td>
<td>Social Media Benefit Index</td>
</tr>
</tbody>
</table>
SME- Subject Matter Experts
TIFF- Tagged image file format
VUE- Visual Understanding Environment
WTCS- Wisconsin Technical College System