



Texas Center for Digital Knowledge  
University of North Texas  
<http://www.txcdk.org>

---

**A Proof-of-Concept Repository for Learning Objects: Supporting the  
Reuse and Repurposing of Redesigned Courses and Their Content**

## **Course Development Guide for THECB Learning Object Repository**

**Svetlana Barnes**  
[sbarnes@lis.admin.unt.edu](mailto:sbarnes@lis.admin.unt.edu)

**01/11/2008**  
**Version #1**

<b>Version Control</b>				
Specify the <b>Version</b> , <b>Date and Time of Modification</b> of the document, <b>Name of the Modifier</b> , <b>Section</b> of the document where the changed have been made, and <b>Brief Description of the Changes</b> .				
<b>Document Title</b>	Course Development Guide for THECB Learning Object Repository			
<b>Document Filename</b>	Course Development Guide_svb_01_11_08			
<b>Original Creation Date</b>	01-11-08			
<b>Original Author</b>	Svetlana Barnes			
Version	Date and Time of Modification	Name of Modifier	Section Modified	Brief Description of the Changes

## Table of Contents

Introduction .....	1
Repository Structure .....	1
Naming Files for the THECB Learning Object Repository .....	1
Binding Files for the THECB Learning Object Repository .....	2

# Course Development Guide for THECB Learning Object Repository

## Introduction

[The purpose of this document is to provide guidelines for preparing courses for submission to the THECB Learning Object Repository. A central issue in the development of the repository is the reuse of learning objects for instruction. These guidelines will facilitate uploading materials into the repository, and reusing materials for instructional purposes. Therefore, this document provides an introduction to the repository structure, and guidance on file naming and file binding of the learning objects for submission to the repository]

## Repository Structure

The structure of the repository provides information about levels of granularity of learning objects and facilitates their search by the user. Granularity refers to relative size, scale, and level of detail of a learning object. A learning object can be defined as any entity, digital or non-digital that can be used for learning, education, or training. THECB Learning Object Repository structure is organized into five levels of granularity based on the relative size of learning objects. Free standing learning objects, the smallest element, are flash animations, individual images or passages of text. Topics are on the next level. They are the smallest piece of instructionally meaningful material and are made up of individual learning objects. Topics include instructional content and the learning objectives of that content. Learning objectives are essential information needed by instructors to determine the content's usefulness. Consequently, instructional content organized at the topic level of granularity will become building blocks for instructors wishing to integrate THECB learning objects into new or existing sequences of instruction. Lessons, the next level, are made up of topics. A lesson may include approximately 2 to 3 hours of instructional material. The next level is unit is comprised of lessons. Finally, the broadest level is the course which is made up of units.

In order for learning objects to be accurately cataloged and organized for reuse, each course developed for the THECB Learning Object Repository should be accompanied by a course outline. This outline will help insure that the course learning objects are placed on the proper level and that each learning object can be nested into its corresponding learning object at the next highest level of granularity. In addition each learning object needs to include a title which is usually determined by its content. These titles can be used as a reference to determine files associated with each Unit, each Lesson, each Topic (including quizzes at the Lesson level), and also additional LOs in the form of Teaching Guide, Case Studies, etc. Moreover, if applicable (exception is learning objects of lowest level of granularity), the learning objects need to be accompanied by learning objectives. Learning objectives will help the user to determine usefulness of the learning object for their purposes. It also would be useful, if short description accompanied the learning object.

## Naming Files for the THECB Learning Object Repository

A learning object consists of a file or a set of files. Normally these are linked HTML files and other types of files with references to them from within HTML files. All files within the same learning object should have an original unique name, including files that are located in different file directories. All filenames should be limited to those acceptable to any operating system on which the files may be loaded. For example, Windows allows for many special characters to be used in filenames. UNIX has a more limited set of characters allowed. The UNIX set should be the guide since all characters UNIX allows are allowed by Windows. However, UNIX filenames are case sensitive and Windows are not. Also, the limitation should be that no special characters be present in file name.

## **Binding Files for the THECB Learning Object Repository**

All files associated with particular learning object need to be available during submission. This simplifies and streamlines submission. Primary bitstream (main file of the Learning Object) should be decided because once it is set only users with administrative rights can change it,

In most cases, interrelationships between files and the corresponding original (source) directory structure are determined by DSpace. At the time of uploading DSpace will provide an organizing structure based upon the content of the files. However, DSpace cannot read links to documents from within Flash files with swf extensions (because swf is compiled flash application). Therefore, all files associated with swf files must be located in the same file directory.