

# Certificate in Interdisciplinary Studies: Emerging Technologies for Learning

## **ELECTIVES** *continued*

### **Mobile Learning**

(36 hours)

The PC revolution has been eclipsed by the mobile revolution. Globally, mobile phones outnumber computers by a ratio of 3:1. Recent innovations with smart phones – the Blackberry and iPhone – suggest the revolution has only just begun. Other devices, such as mini-computers and Amazon’s Kindle, provide new opportunities for mobile computing. How do mobile technologies impact education? What can educators do to take advantage of the powerful computing devices most students carry in their pockets? This course will explore different educational applications of mobile devices, drawing on examples of successful educational implementations and case studies.

### **Immersive Worlds, Avatars, and Second Lives**

(36 hours)

While graphic-rich virtual and immersive worlds are a recent phenomenon, text-based games and simulations have been prominent since the early development of computers. Games like World of Warcraft and virtual worlds like Second Life draw both praise and criticism from parents, researchers, and educators. Can games, avatars, virtual worlds and simulations be utilized for educational purposes? A strong body of research suggests games can be important in increasing student engagement, developing critical skills, and improving learner’s “scientific habits of the mind”. This course will serve as an introduction to immersive worlds and games, providing educators with a broad overview of current options and potential opportunities for adoption for teaching and learning.

### **Open Educational Resources**

(36 hours)

Since the early 2000’s, open educational resources have grown in public awareness and influence for academic administrators and educators. When prominent institutions such as Yale, Harvard, and MIT begin to freely share their educational resources, academics are provided with a wealth of resources to incorporate into existing classrooms. Open educational resources create a climate for educators to freely build on each others work. But OERs are about more than using content created by large institutions. The openness movement has started to impact scholarship and journals creating new models of open access and publishing. What are the key drivers for the openness movement? Where can educators find quality open content? How can educators join existing OER communities in their own discipline? This course will address these important questions.

### **Future Directions and Trends**

(36 hours)

What is the next wave of technological change? What can educators do to prepare and anticipate trends? Using a method called “future thinking,” this course will look at a variety of trends and provide a series of potential scenarios and future directions. Participants will be actively involved in tracking critical trends, exploring their educational impact, and plan for ways to prepare for important changes.

**CIS: Emerging Technologies for Learning is a fully online program. Most materials are available online and participants require only a computer and internet connection. All software is open source.**

**For application, registration and course schedule and fees go to [umanitoba.ca/extended/coned/cis](http://umanitoba.ca/extended/coned/cis)**

#### **or contact**

Jo-Anne Thompson  
Program Administrator  
Inter-disciplinary Studies  
[joanne\\_thompson@umanitoba.ca](mailto:joanne_thompson@umanitoba.ca)



UNIVERSITY  
OF MANITOBA

Extended Education



Learning Technologies Centre



UNIVERSITY  
OF MANITOBA

Extended Education



Learning Technologies Centre

Certificate in  
Interdisciplinary Studies:

# Emerging Technologies for Learning

[umanitoba.ca/extended/coned/cis](http://umanitoba.ca/extended/coned/cis)

*Offered by  
The University of  
Manitoba Extended  
Education  
in collaboration with  
The University of  
Manitoba Learning  
Technologies Centre*

In today's world, where information and conversations are continually at our finger tips, new technologies and new approaches to teaching and learning are becoming of increasing interest to educators. The most prominent changes center on how we relate to others and how we relate to information. The practical instantiation of this shift is found in new technologies that permit individuals greater control over the creation of content and interaction with others not confined by geographical boundaries. These tools are often classified as part of the read-write web, participatory technologies, or Web 2.0. How does this ubiquitous information and communication environment affect traditional educational practices? How can these new technologies and tools be effectively used? This 216 hour online certificate program explores the changing landscape of technology, information, communication, fostering discussion on how these trends impact learning and teaching.

# Certificate in Interdisciplinary Studies: Emerging Technologies for Learning

## CORE COURSES

### Introduction to Emerging Technologies

(35 hours)

New technologies offer new opportunities for educators to increase learner engagement and improve the overall value of the learning experience. The last five years have resulted in the introduction of numerous new tools and approaches: blogs, wikis, podcasts, social bookmarking, virtual worlds, and social networking services. This course will explore the development of different technologies and suggest their potential impact on teaching and learning. Focus will be placed on tools that increase learner control over content, interaction, and the formation of learning networks with peers and experts outside of classrooms.

### Connectivism, Networked Learning, and Connective Knowledge

(36.5 hours)

Connectivism and Connective Knowledge will explore the concepts of connectivism and connective knowledge and discuss their application as a framework for theories of teaching and learning. It will outline a connectivist understanding of educational systems of the future. This course will help participants make sense of the transformative impact of technology in teaching and learning over the last decade. The voices calling for reform do so from many perspectives, with some suggesting 'new learners' require different learning models, others suggesting reform is needed due to globalization and increased competition, and still others suggesting technology is the salvation for the shortfalls evident in the system today. While each of these views argue for the need for change, they overlook the primary reasons why change is required. This course will tackle the deep rooted change pressures and explore why a systemic response is required.

### Instructional Design

(35 hours)

Instructional design is a critical component to planning and delivery of technology-enabled learning. This course will explore the history of instructional design, important instructional design models, and current trends in instructional design theories. A particular emphasis will be placed on the utilization of instructional design principles in selecting appropriate technologies in different contexts.

### Program Planning

(37.5 hours)

This course identifies and examines planning procedures and strategies which result in effective programs for adults who are learning in a wide variety of settings. You are introduced to program planning models, needs assessment, marketing, evaluation and program management.

## ELECTIVES (select 2)

### Digital Literacy

(36 hours)

To be literate in a particular age (or subset of society) is to possess proficiency in the media and tools of the generation. Organizations today expect employees to be literate with text, scientific-thinking, media, images, and, increasingly, social technologies. The American Library Association defines information literacy as "the set of skills needed to find, retrieve, analyze, and use information." Microsoft defines digital literacy skills as: "basic computer concepts and skills so that people can use computer technology in everyday life to develop new social and economic opportunities for themselves, their families, and their communities." In education, calls are issued for increased emphasis on 21st century skills – the combination of core skills with media, technology, life, learning, and innovation skills.

New Literacy is concerned with developing the capacity for learners to use networked, social technologies, to filter and manage information and relationships for personal and professional productivity. Of necessity, digital literacy and 21st century skills form the backdrop for the development of new literacy.

### Facilitation

(36 hours)

Educational institutions have been calling for learner-centered instruction for decades. Only recently has the role of the educator in the classroom experienced a significant conceptual shift. This has been partly enabled by the opportunities for learners to engage in online conversations outside of a traditional one-instructor to many learners model of teaching. In online environments, increased control on the part of learners to find content and resources and to engage in conversation with experts and peers, requires educators to adopt a facilitative approach to instruction. This course will explore important concepts and strategies for educators to develop skills to facilitate online and blended courses.

### Making Sense in Abundance: Visualization and Other Coping Techniques

(36 hours)

Information abundance is one of the most pervasive challenges facing individuals in society today. Whether in work environments or personal activities, the deluge of new and constantly changing information is overwhelming. Staying current in one's field or even world events, is an increasingly complex and elusive task. This course will explore approaches to making sense of abundant information. Visualization techniques, software, and information organization and coping strategies will be explored. Course participants will develop a coherent strategy for managing a continually changing information landscape.

**ELECTIVES** *continued*