Leveraging Technology to Create Differentiated Learning Environments

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Course Description
As today’s classrooms become increasingly diverse, teachers frequently find themselves working to address the varying needs of their students. Emerging technologies allow teachers to create flexible, individualized curricula that can scaffold as well as enrich. Differentiated Instruction is an accepted best practice with proven results for improving student achievement. Many of the new technologies offer educators the means to facilitate the implementation of DI into heterogeneous classrooms.

Course Goals
The goals of this course are to explore and evaluate technologies to facilitate differentiation, support diverse learners, and create rich, learning environments that meet the needs of all students.

Course Objectives
Upon completion of the course participants will be able to use technology to enhance the following aspects of differentiated instruction:

- Assessment
- Differentiating Content, Process and Product
- Structuring and Managing DI in the classroom

Course Requirements
The course is designed as a collaborative four-week online learning experience. Course material is arranged in modules and should be viewed in the order listed. There is no textbook to buy. All material is posted on the University eLearning platform Blackboard. The first two modules are open when the course begins. The last two will be made available after the second week. Students may expect to spend three hours each week participating on the discussion board, posting to a private Journal or class collaboration space, and reviewing course material. As a final assignment student are to build an assignment which incorporate Web 2.0 technologies that meet all learners in their classrooms.
**Grading Criteria**

Grades are recorded in the course grade book on a weighted points system. Students may view their progress using the My Grades Tool listed under Student Tools. The orientation activity, posts to the discussion board and class collaboration are all included in the Participation grade. Students are also expected to post weekly private reflections to a Blog and submit a written assignment as the final grade.

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<tr>
<th>Assignments</th>
<th>POINTS POSSIBLE</th>
<th>WEIGHTED GRADE</th>
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<tbody>
<tr>
<td><strong>PARTICIPATION</strong></td>
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<td>25%</td>
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<tr>
<td>Introduction (Who is in the room? Blog Post)</td>
<td>5</td>
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<td>Discussion Board Posts</td>
<td>10</td>
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<tr>
<td><strong>REFLECTION</strong></td>
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<td>25%</td>
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<td>Reflection (Blog Post)</td>
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<td><strong>ASSIGNMENTS</strong></td>
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**Course Expectations**

Participation in all assignments and course discussions is required. If you anticipate being away during any part of this course, make plans to have access to a computer connected to the Internet. Late work is not accepted.

*Note: The only exception is the July 4th holiday. We will have no class assignments due on that day.*

Participants are also expected to have basic computer skills, know how to search the web, understand how to send an email and attach a file, and have basic file management skills. A fairly new computer connected to the Internet works best with Blackboard and familiarity with the learning management tool is also advised.

If you are new to Blackboard or online courses, please review the Blackboard student tutorial or download the PDF file before you begin the course. By logging into Blackboard, you agree to the university Acceptable Use Policy, which also covers academic honesty. To become more familiar with this policy click here.

**Massachusetts Frameworks/Standards**

Each weekly unit will incorporate 2016 Massachusetts Digital Literacy and Computer Science Curriculum and ISTE Standards for Teachers.

2016 Massachusetts Digital Literacy and Computer Science Curriculum Standard 2: Digital Tools and Collaboration (DTC)

- Digital tools are applications that produce, manipulate, or store data in a digital format (e.g., word processors, drawing programs, image/video/music editors, simulators, Computer-Aided Design (CAD) applications, publishing programs).
- Digital tools are critical for conducting research, communicating, collaborating and creating in social, work, and personal environments. The use of digital tools is integral to success in school and career.
  - Digital Tools: Digital tools are used to create, manipulate, analyze, edit, publish, or develop artifacts. Individuals and groups identify, evaluate, select, and adapt new tools as they emerge.
  - Collaboration and Communication: A variety of digital tools are used to work collaboratively anytime and anywhere, inside and outside the classroom, both synchronously and asynchronously, to develop artifacts or solve problems, contribute to the learning of others, and communicate.
Research: A variety of digital tools are used to conduct research, answer questions, and develop artifacts to facilitate learning and convey understanding. Access to the internet.

**ISTE Standards for Educators**

1. **Learner:** Educators continually improve their practice by learning from and with others and exploring proven and promising practices that leverage technology to improve student learning. Educators:
   - 1c: Stay current with research that supports improved student learning outcomes, including findings from the learning sciences.

2. **Leader:** Educators seek out opportunities for leadership to support student empowerment and success and to improve teaching and learning.
   - 2b: Advocate for equitable access to educational technology, digital content and learning opportunities to meet the diverse needs of all students.
   - 2c: Model for colleagues the identification, exploration, evaluation, curation and adoption of new digital resources and tools for learning.

3. **Designer:** Educators design authentic, learner-driven activities and environments that recognize and accommodate learner variability. Educators:
   - 5a: Use technology to create, adapt and personalize learning experiences that foster independent learning and accommodate learner differences and needs.
   - 5b: Design authentic learning activities that align with content area standards and use digital tools and resources to maximize active, deep learning.
   - 5c: Explore and apply instructional design principles to create innovative digital learning environments that engage and support learning.

4. Design and Develop Digital Age Learning Experiences and Assessments
5. Model Digital Age Work and Learning

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**Course Syllabus**

**Pre-Course Assignment**

**Reading:** [Differentiating Instruction with Technology in Middle School Classroom](#)
Module 1: Introduction to Differentiated Instruction

Objective: Deepen your understanding of differentiated instruction, how it works and the dimensions of differentiated instructions and UDL

Videos:
- Ken Robinson says schools kill creativity
- Differentiated Instruction in the Classroom
- Planning Process-Differentiated Instruction with Technology

Reflection: How can technology create differentiated learning environments? In what ways can DI benefit your students?

Reading: CRCD Framework and Bloom’s Revised Taxonomy
- Ben Schniederman on Collect-Relate/Create-Donate
- Bloom's Revised Taxonomy

Assignment: Begin exploring EdTechTeacher list of Collect-Relate/Create-Donate web tools. Choose three tools that you would like to incorporate into your classroom. Post your selection in the class discussion forum. How will these tools be used to differentiate your classroom environment?

Additional Resources: Reaching every learner: Differentiating instruction in theory and practice

Module 2: Universal Design for Learning

Objective: Deepen your understanding of UDL

Reading: What is UDL?

Assignment: View UDL Guidelines and explore the UDL Cast Learning Tools

Discuss Board: Discuss ways in which a specific UDL Learning Tools can be integrated in your classroom.

Optional Resource: UDL ToolKit
Module 3: Differentiated Instruction and UDL

Objective: Examine and identify the key skills that students, and faculty, should possess in order to leverage technology to support learning as well as how to teach them.

Reading: Chapter 1 & 2 Integrating Differentiated Instruction and Understanding by Design By Carol A. Tomlinson and Jay McTighe

Assignment: Based on what you learned in this module, as well as what you have read, redesign an existing project or assessment that you currently teach. Which new tools could you integrate? How would that help you to better differentiate? In addition to thinking about how it could support struggling learners, how could you also create a technology rich lesson that would enrich some of your accelerated students? Post your response in the class discussion forum.

Discuss Board: Discuss ways in which a specific Web site can be integrated in your classroom.

Optional Reading: Technology Integration from George Lucas Foundation: Edutopia A site with technology integration examples, video, lessons, and many useful links. If you click on the Teaching Modules link you will find subject area specific integration resources.

Module 4: Final Assignment: Considering CRCD, UDL and DI take a lesson plan and reinvent it using resources that we explored in previous modules. The lesson should clearly indicate flexibility and various modes of collecting, relating, creating and donating to account for the different learners in your classroom.

Please use the lesson plan located in the class resource page. Once you have your lesson-completed use the reflection chart (also located in the class resource page).

Reflection: What prompt you to revision your original lesson plan?
Accommodations:

Framingham State University offers equal opportunities to all qualified students, including those with disabilities and impairments. The University is committed to making reasonable accommodations, as we are necessary to ensure that its programs and activities do not discriminate or have the effect of discriminating on the basis of disability. Academic Support serves students with learning and psychiatric disabilities as well as students with visual, mobility and hearing impairments. If you need further information please visit the website at: Center for Academic Support or contact Ms. LaDonna Bridges, Director of Academic Support/Disability Services, in the Center for Academic Support and Advising (CASA) at 508-626-4906 or lbridges@framingham.edu.