**EDCI 557: Integrating Technology in the Curriculum**

**Course Description:** This course studies the development and implementation of curriculum and instruction in the elementary classroom, program evaluation, and instructional and organizational implications. Particular attention will be given to integrating technology in the curriculum, the inclusion of special needs students, and the inclusion of culturally diverse students.

**Nature of Course Delivery:** Students in this course will participate in individual and group activities that focus on the integration of technology by using computers in class. Students will also participate in large group discussions led by the instructor and in small group discussions and activities with their classmates.
Learning Outcomes: At the conclusion of this course, students will be able to:

1. plan interdisciplinary learning experiences that allow elementary students to integrate knowledge, skills, and methods of inquiry from several subject matter areas;
2. identify and apply criteria for the evaluation of elementary education physical environments, materials, and programs;
3. identify how students differ in their approaches to learning and create instructional opportunities that are adapted to diverse learners;
4. use formal and informal assessment strategies to evaluate and ensure the continuous intellectual, social, emotional, and physical development of learners;
5. apply the principles of classroom management;
6. select appropriate materials, tools, and technologies to achieve instructional goals with all learners.

Educational Standards: This course addresses the following National and State Standards:

The Virginia State Teacher Education Licensure Regulations for Elementary Education:

1. The use of differentiated instruction and flexible groupings to meet the needs of learners at different stages of development, abilities, and achievement.
2. The use of appropriate methods, including direct instruction, to help learners develop knowledge and basic skills, sustain intellectual curiosity, and problem solve.
3. The ability to utilize effective classroom management skills through methods that will build responsibility and self-discipline and maintain a positive learning environment.
4. A commitment to professional growth and development through reflection, collaboration, and continuous learning.
5. The ability to use computer technology as a tool for teaching, learning, research, and communication.

The Virginia State Technology Standards for Instructional Personnel:

1. Instructional personnel shall be able to demonstrate effective use of a computer system and utilize computer software.
2. Instructional personnel shall be able to apply knowledge of terms associated with educational computing and technology.
3. Instructional personnel shall be able to apply computer productivity tools for professional use.
4. Instructional personnel shall be able to use electronic technologies to access and exchange information.
5. Instructional personnel shall be able to identify, locate, evaluate, and use appropriate instructional hardware and software to support Virginia's Standards of Learning and other instructional objectives.
6. Instructional personnel shall be able to use educational technologies for data collection, information management, problem solving, decision making, communication, and presentation within the curriculum.

7. Instructional personnel shall be able to plan and implement lessons and strategies that integrate technology to meet the diverse needs of learners in a variety of educational settings.

8. Instructional personnel shall demonstrate knowledge of ethical and legal issues relating to the use of technology.

**International Society for Technology in Education (ISTE) National Educational Technology Standards:**

1. TECHNOLOGY OPERATIONS AND CONCEPTS - Teachers demonstrate a sound understanding of technology operations and concepts. Teachers:
   1. demonstrate introductory knowledge, skills, and understanding of concepts related to technology (as described in the ISTE National Educational Technology Standards for Students).
   2. demonstrate continual growth in technology knowledge and skills to stay abreast of current and emerging technologies.

2. PLANNING AND DESIGNING LEARNING ENVIRONMENTS AND EXPERIENCES - Teachers plan and design effective learning environments and experiences supported by technology. Teachers:
   1. design developmentally appropriate learning opportunities that apply technology-enhanced instructional strategies to support the diverse needs of learners.
   2. apply current research on teaching and learning with technology when planning learning environments and experiences.
   3. identify and locate technology resources and evaluate them for accuracy and suitability.
   4. plan for the management of technology resources within the context of learning activities.
   5. plan strategies to manage student learning in a technology-enhanced environment.

3. TEACHING, LEARNING, AND THE CURRICULUM - Teachers implement curriculum plans, that include methods and strategies for applying technology to maximize student learning. Teachers:
   1. facilitate technology-enhanced experiences that address content standards and student technology standards.
   2. use technology to support learner-centered strategies that address the diverse needs of students.
   3. apply technology to develop students' higher order skills and creativity.
   4. manage student learning activities in a technology-enhanced environment.

4. PRODUCTIVITY AND PROFESSIONAL PRACTICE - Teachers use technology to enhance their productivity and professional practice. Teachers:
1. use technology resources to engage in ongoing professional development and lifelong learning.
2. continually evaluate and reflect on professional practice to make informed decisions regarding the use of technology in support of student learning.
3. use computer-based technologies including telecommunications to access information and enhance personal and professional productivity.
4. apply technology to increase productivity.
5. use technology to communicate and collaborate with peers, parents, and the larger community in order to nurture student learning.

5. SOCIAL, ETHICAL, LEGAL, AND HUMAN ISSUES - Teachers understand the social, ethical, legal, and human issues surrounding the use of technology in PK-12 schools and apply those principles in practice. Teachers:

1. model and teach legal and ethical practice related to technology use.
2. apply technology resources to enable and empower learners with diverse backgrounds, characteristics, and abilities.
3. identify and use technology resources that affirm diversity.
4. promote safe and healthy use of technology resources.
5. facilitate equitable access to technology resources for all students.

Readings and Materials:


Course Requirements:

1. Unit Lesson Plan and Work Sampling (50 points): Interns will design and teach a unit lesson plan (preparation for at least one week), which uses technology as part of the instruction. Interns will specifically outline how they will use the technology they have selected to teach the subject matter. The Unit should be interdisciplinary and cover multiple content areas, including the fine arts. Interns will also indicate how they will adapt the lesson for students with special needs. Work Sampling will be included. Interns will submit the unit plan (electronically) prior to teaching the lesson in order to obtain feedback from the instructor.
   1. Unit Lesson Plan - 25 points
   2. Work Sampling - 25 points
2. In-class Video Project (15 points): In small groups, interns will plan and shoot a commercial video advertising the arts. I-Movie will be used to edit the video.
3. Video Exhibits Discussions (20 points): Interns will examine several video case studies/exhibits. These exhibits were developed by the National Board for
**Professional Teaching Standards** and feature National Board Certified Teachers. Interns will reflect on the lesson presented and will discuss the exhibits on Blackboard.

4. **Differentiation for Special Needs (15 points):** Interns will identify one Special Need student within their classroom and will follow that student for one day. If there are no Special Needs students in the intern's classroom, another student in the school may be used. Interns will identify the ways in which instruction is differentiated for this student. Intern is encouraged to speak to the Special Education teacher to learn more about differentiation of instruction for Special Needs students. Intern will write a paper describing the child (do not use real name) and ways in which the instruction was differentiated. Intern should also include what he/she learned about differentiation based on this experience and course readings and discussions.

**Evaluation:**

Since this is a graduate level course, high quality work is expected on all assignments and in class. Points for all graded assignments will be based on the scope, quality, and creativity of the assignments. All assignments are due at the beginning of class. Late assignments will not be accepted without making arrangements with the instructor.

Points will be assigned to all graded assignments using a rubric process. Both class participants and the course instructor will be involved in assessment of graded assignments. Prior to the due date for any assignment, the class will participate in the development of an assessment rubric. This rubric will result from a discussion of applicable course objectives and an elaboration of qualities and components associated with excellence in completion of the assignment.

In general, oral and written assignments and projects will be evaluated using an A, A-, B+, B, C or F. The following criteria will be used in the form of a grading criteria sheet or a rubric:

- Is the required information presented?
- Is the content of the submission accurate?
- Does the paper cover the issues discussed in class and in the readings?
- Are the ideas presented in a thoughtful, integrated manner?
- Does the project show creativity and original thought?
# Schedule of Class Topics

Students are asked to turn off all cell phones and beepers before the start of class.

<table>
<thead>
<tr>
<th>Date</th>
<th>In Class Topics</th>
<th>Homework Assignments</th>
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</thead>
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| 1/26 | Review of Syllabus  
Introduction to Course Concepts: Interdisciplinary, Integration of Technology Use of Simulations  
Toy Store, Ice Cream Truck | Read Norton and Sprague, Preface, Ch. 1, and Ch. 7 |
| 2/2  | Discuss readings  
Introduction to Blackboard  
Introduction to the Digital Edge Project  
Compare and contrast Plentiful Penguins and Postcards to Learning  
M&M's Activity  
Learning to use a Spreadsheet | Read Norton and Sprague, Ch. 9  
Read Tomlinson, Forward, Introduction, Ch. 1  
Post an introduction in Blackboard |
| 2/9  | Discuss readings  
A Class Mystery  
Creating a database  
Solving the mystery | Read Bray, Brown, and Green, Preface, Ch. 1  
Read Norton and Sprague, Ch.5  
Explore Surfing the Solar System  
Exhibit, watch all videos.  
Answer the question on Blackboard |
| 2/16 | Discuss readings  
Introduction to WebQuests - What are they really? | Read Norton and Sprague, Ch. 4  
Read Bray, Brown, and Green, Ch. 2  
Read Tomlinson, Ch 3, 4, and 5 |
| 2/23 | Discuss readings  
KineticCity  
Online Resources | Read Bray, Brown, and Green, Ch. 3  
Read Tomlinson, Ch 8, 9, and 10  
Explore Quilting and Geometry- Patterns for Living, watch all videos.  
Answer the question on Blackboard  
Work on Unit Plan |
| 3/2  | No Class - Work on Unit Plan | Read Tomlinson, Ch 6 and 7  
Read Bray, Brown, and Green, Ch 4  
Work on Unit Plan |
| 3/9  | Discuss readings  
Webcast on Assistive Technology  
Visit Assistive Technology Lab Thompson Hall Rm 221 | Finish Unit Plan  
Send Unit Plan to Dr. Sprague via e-mail or place in Digital Drop Box in Blackboard by 3/16 |
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<thead>
<tr>
<th>Date</th>
<th>Assignment/Activity</th>
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<tbody>
<tr>
<td>3/16</td>
<td>No Class - Spring Break Technology Unit Plan Due</td>
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<tr>
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<td>Explore Baby Signs for Pre-K Children Exhibit, watch all videos. Answer the question on Blackboard.</td>
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<tr>
<td>3/23</td>
<td>Discuss readings Video: How to Make a Video Storyboard Techniques Designing Your Own Video</td>
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<tr>
<td></td>
<td>Read Tomlinson, Ch. 11 and 12 Explore Baby Signs for Pre-K Children Exhibit, watch all videos. Answer the question on Blackboard.</td>
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<tr>
<td>3/30</td>
<td>Discuss readings [Webcast]: Creating a Video Editing Techniques with I-Movie Lights, Camera, Action: Shooting your own video [Differentiation for Special Needs Paper Due]</td>
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<td>Explore Properties, Properties Exhibit, watch all videos. Answer question on Blackboard. Work on Storyboard for Video</td>
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<tr>
<td>4/6</td>
<td>Discuss readings Learning iMovie Work on editing videos</td>
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<tr>
<td></td>
<td>Read Norton and Sprague, Ch. 4 Work on shooting video</td>
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<tr>
<td>4/13</td>
<td>No Class - Work on editing videos</td>
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<tr>
<td></td>
<td>Work on editing videos</td>
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<tr>
<td>4/20</td>
<td>Discuss readings Finish editing videos</td>
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<td>Read: Norton and Sprague, Ch. 3 and 8 Work on Work Samples</td>
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<tr>
<td>4/27</td>
<td>Video Film Festival Introduction to Hypertext and Hypermedia [ButtonTalk] - write your own story</td>
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<td>Read Norton and Sprague, Ch. 10 Work on Work Samples</td>
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<tr>
<td>5/4</td>
<td>Discuss readings Emerging Technologies: GPS Units Work Samples Due</td>
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<tr>
<td>5/11</td>
<td>Emerging Technologies: MUVEs and Virtual Reality - ScienceSpace</td>
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**GSE Syllabus Statements of Expectations**

The Graduate School of Education (GSE) expects that all students abide by the following:

Students are expected to exhibit professional behavior and dispositions. See http://gse.gmu.edu/facultystaffres/profdisp.htm for a listing of these dispositions.
Students must follow the guidelines of the University Honor Code. See http://www.gmu.edu/catalog/apolicies/#TOC_H12 for the full honor code.

Students must agree to abide by the university policy for Responsible Use of Computing. See http://mail.gmu.edu and click on Responsible Use of Computing at the bottom of the screen.

Students with disabilities who seek accommodations in a course must be registered with the GMU Disability Resource Center (DRC) and inform the instructor, in writing, at the beginning of the semester. See www.gmu.edu/student/drc or call 703-993-2474 to access the DRC.