



Course Syllabus

COURSE NUMBER: EDTC 5030 W1 & W2	COURSE TITLE Topics in Classroom Technologies Modeling Data to Enhance Instruction	TERM: Summer 2008 06/09/08 - 08/01/08
SITE: Online	INSTRUCTOR CONTACT INFORMATION: Dr. B. Desmond Rodney Phone: 314-246-8718 Office hours: by appointment eMail: desmondrodney62@webster.edu web: http://poe.webster.edu/~desmondrodney62	CREDIT HOURS: 2

1. COURSE DESCRIPTION:

This course is designed to focus teachers on engaging in data-driven decision making for instructional improvement. In the context of national and state-based teacher accountability systems, teachers are expected to use student performance and test data to improve student learning by differentiating instruction for each student. In this course, teachers will use data modeling software in conjunction with problem solving approaches to interpret and analyze student performance data. Using these modeling tools teachers will engage in trend analysis, data representations and visual modeling of individual student data. Teachers will also learn how to teach inquiry based data modeling concepts to students in their own classrooms.

2. LEARNING OUTCOMES:

SoE Goals, SoE Dispositions, and MoSTEP/Prof Standards Addressed

- λ Represent data in applications that challenge students to approach curricular materials in meaningful ways
- Develop selects and creates learning experiences that are appropriate for curriculum goals, relevant to learners, and based upon principles of effective instruction (e.g., encourages exploration and problem solving, building new skills from those previously acquired (MoSTEP 1.2.4.1)
- Engages students in active learning that promotes the development of critical thinking, problem solving, and performance capabilities (MoSTEP 1.2.5.2).
- Demonstrates an understanding of technology operations and concepts (MoSTEP 1.2.11.1).
- Plans and designs effective learning environments and experiences supported by informational and instructional technology (MoSTEP 1.2.11.2).

Course Outcomes

(Upon completion of this course students will be able to:)

- λ Demonstrate conceptual understanding of data modeling
- λ Understand data modeling for curricular , software design and student management uses
- λ Use a spreadsheet program such as Microsoft Excel, Openoffice.org Calc, Googledocs Spreadsheet to develop basic data models.
- λ Use data modeling tools such as InspireData to create and deliver data modeling learning experiences for students in the k-12 classroom (or other instructional/training context)
- λ Use data modeling tools such as GoogleEarth to organize student data to enhance student learning

3. Schedule of required readings, class preparations and assignments, lectures, discussions, student presentations, out-of-class assignments and exams (subject to change).

Unit	Module	Topic	Activity	
Unit 1 <u>DUE</u> 8, 12, 15, 19	Module 1	Introduction to Data Modeling	Modeling Nature & Process Sheet	Worksheet 1
	Module 2	Modeling Processes	Data Modeling Framework - Map	Assignment 1
	Module 3	Computers & Modeling	Modeling for Meaning - Sheet	Worksheet 2
	Module 4	Computers & Modeling	Modeling for Meaning - Show	Assignment 2
Unit 2 <u>DUE</u> 22, 26, 29, 3	Module 1	Quantitative Curricular Models	Spreadsheet Modeling Worksheet 1	Worksheet 3
	Module 2	Quantitative Productive Models	Spreadsheet Modeling Worksheet 2	Worksheet 4
	Module 3	Quantitative Curricular Models	Database Modeling Worksheet 1	Worksheet 5
	Module 4	Quantitative Productive Models	Database Modeling Worksheet 2	Worksheet 6
Unit 3 <u>DUE</u> 6, 10, 13, 17	Module 1	Quantitative Models InspireData	Dynamic Modeling Assignment 1	Assignment 3
	Module 2	Qualitative Models InspireData	Dynamic Modeling Assignment 2	Assignment 4
	Module 3	Stella Modeling Tool Review	Quant & Qual Modeling Stella	Worksheet 7
	Module 4	Powersim Modeling Tool Review	Quant & Qual Modeling Powersim	Worksheet 8
Unit 4 <u>DUE</u> 20, 24, 27, 31	Module 1	GoogleEarth Curricular Modeling	Madison's Travels – Domain DB	Project 1
	Module 2			
	Module 3	GoogleEarth Productive Modeling	Student Mgt. Data in District e.g. AYP Data, Yr, Subgroups,	Project 2
	Module 4			

4. RESOURCES:

Required Text(s):

Jonassen, David, H., (2005). Modeling with Technology: Mindtools for Conceptual Change (3rd Edition) by Prentice Hall; ISBN-13: 978-0131703452

Jonassen, D. H., Carr, C., and Yueh, H.-P. (1998). Computers as mindtools for engaging learners in critical thinking. TechTrends, 43(2):24-32. Available Online ([See Blackboard Vista Weblinks](#))

Required Software:

NB: Most of the required software applications are free and openly available for download free of cost. Links to the download sites are under the Blackboard Vista course site at *weblinks*. You can also **Google** them.

- λ Inspiration (Purchase online or bookstore site) – 30 day trial online at www.inspiration.com
- λ **OR** IHMC CMAP (Free Open Source Software)
- λ InspireData (Purchase online or at bookstore site) – 30 day trial online at www.inspiration.com
- λ Vensim (Demo available)
- λ Stella (Demo available)
- λ Powersim (Demo available)
- λ GoogleEarth (Free)
- λ Openoffice.org (Free) an open source Office Suite comparable to Microsoft Office

5. EVALUATION: (basis of evaluation with explanation regarding the nature of the assignment and the percentage of the grade assigned to each item below)

NB: The course assignments add up to 100 points. Therefore to find your grade as a percentage of 100 simply add the points. This assessment list is subject to change based on instructional need.

Assessment	Assignment or Activity Description	Points
Worksheets	λ Modeling Worksheets	40 Points
	λ Total of 8 Worksheets	

	λ Each worksheet is 5 points	
Projects	Two integrated projects that combine a number of skills as learned throughout the course. Is a demonstration of student application and comprehension of application design as well as command of modeling processes	20 Points
Assignments	λ Synthesis or evaluative assignments in which students represent what they have practiced/studied. λ Total of 4 Assignments λ Each assignment is 5 points	20 Points
Class Participation	λ Discussions, occasional Chat-room discussions, also Responses to e-lectures. λ Will not exceed 16 items (usually 1 for each week of class or 2 for each week in an 8 week session)	10 Points
Examination	λ One examination - usually at the midpoint of the course. Focuses on the theoretical aspects of the course content.	10 Points

6. GRADING SCALE:

93 – 100 = A 90 – 92 = A- 86 – 89 = B+ 83 – 85 = B 80 – 82 = B- 76 – 79 = C+

7. ATTENDANCE:

Attendance is crucial in all online courses. This means that a student is expected to login to the course several times during each week.

I will be available in the course **chat room** at a time specified (usually a set night of the week). You should come in and chat with me. Chats will focus on clarification of course content. You are expected to observe rules of Net Etiquette.

Even though you are not required to be logged in at any precise time or day, you are expected to login several times during each week. It is important to actively participate each week in the course.

The instructor reserves the right to lower the final grade by a letter grade for missed assignments.

Students who do not complete the requirements of the course must contact the instructor prior to the end of the course to complete an Incomplete Course form. A grade of (I) for Incomplete will not be awarded except in emergencies, as defined by the instructor.

NB: An Incomplete may only be considered for a student who has maintained a passing grade up to the point of the emergency. Incomplete grades will change to a NC unless the requirements stipulated on the incomplete form are met by the date listed on the form; or one calendar year from the end of the course, whichever comes first.

8. OTHER

It is expected that in this course we will develop a dynamic learning community. This will be characterized by us actively engaging in modeling the use of technologies as they would exist in the classroom (e.g. a WebQuest or Project). The community will facilitate us learning together and working together for each person's success. Therefore collaboration using *Blackboard Vista email* and the *Blackboard Vista online discussion forum* is absolutely necessary to keep thoughts ideas and support flowing within our classroom community.

ACADEMIC HONESTY POLICY

Students at Webster University are expected to practice academic honesty.

Avoiding Plagiarism

In its broadest sense, plagiarism is using someone else's work or ideas, presented or claimed as your own. While students are encouraged to communicate concepts and approaches to solving problems, copying the work of others is strictly prohibited.

Consequences of Academic Dishonesty:

Plagiarism may result in a failing grade and immediate discharge from the course.

For further information about the consequences of academic dishonesty please consult the Webster University Student Handbook.

ACCESSIBILITY/ACCOMMODATIONS POLICY

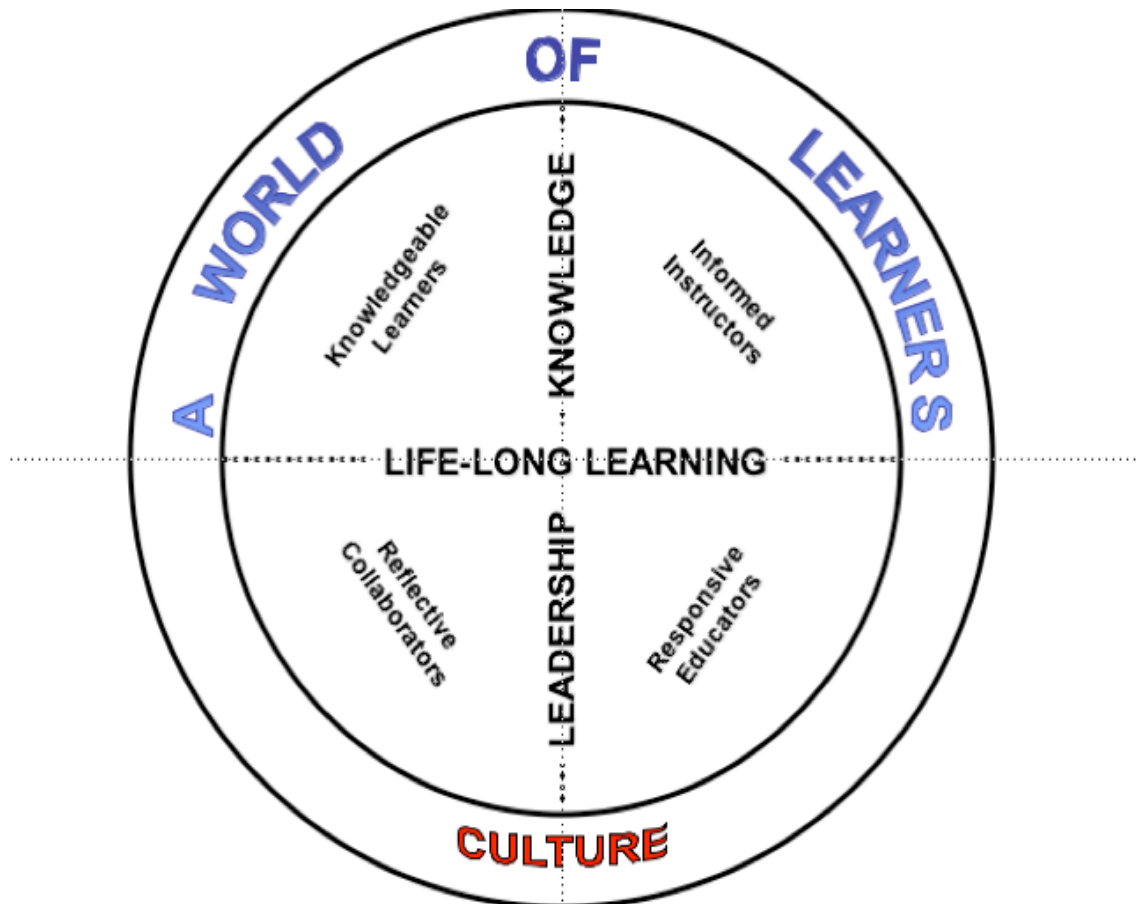
If you have a disability that may have some impact on your work in this class and for which you may require accommodations contact the Director of the Academic Resource Center, Dr. Pat McLeese, at (314) 968-7495.

Webster University School of Education

Vision: “. . . We all must work to make this world worthy of its children.” (Casals, 1970)

Mission: The School of Education at Webster University provides its students with the knowledge, experiences, and practical tools that help them guide both themselves and others toward lifelong learning. The School of Education is a community of educator-scholars who apply critical reflections and creative energies to enhance learning in schools and other educational settings. The faculty strives to support this community by modeling effective teaching practices based on sound theory and research. Personalized approaches create a challenging, yet supportive environment that permits the risk-taking necessary for learning and growth. The School of Education encourages its faculty and students to work actively toward this end, keeping in mind that action must be rooted in visionary, yet realistic, thinking. This thought and action process underscores the development of an inner-directed self-understanding, an outer-directed global perspective, and an appreciation of human diversity that arises from both.

Theme: Developing a world of learners through knowledge, leadership, and life-long learning.



The universal mandala (a circle with intersecting vertical and horizontal lines) graphically represents the conceptual framework of the School of Education. The outer circle provides the framework for a “world of learners” in cultural settings. The two axes represent the theme components of knowledge, leadership, and life-long learning. These lines are broken to emphasize the fluid relationship of the goals and integrated concepts. Each quadrant represents one of the school’s four goals for its candidates: to develop knowledgeable learners, informed instructors, reflective collaborators, and responsive educators.

**School of Education
Goals**

1. Education candidates will demonstrate knowledge of the subject matter, knowledge of the learner, and knowledge of pedagogy based on inquiry and scholarship.

The knowledgeable learner:

- 1.1 knows content that supports conceptual understanding;
- 1.2 applies tools of inquiry to construct meaningful learning experiences;
- 1.3 identifies developmental factors in student learning; and
- 1.4 understands theoretical principles of effective instruction to plan learning experiences.

2. Education candidates will incorporate multiple assessment and instructional strategies to support effective educational practices based on research and theory.

The informed instructor:

- 2.1 designs curriculum based on students’ prior knowledge, learning styles, strengths, and needs;
- 2.2 understands and uses a range of instructional strategies;
- 2.3 uses a variety of communication modes, media, and technology to support student learning; and
- 2.4 employs a variety of formal and informal assessments to monitor learning and modify instruction.

3. Education candidates will reflect on the roles educators take as leaders of change through collaboration with colleagues, students, and families in schools and communities.

The reflective collaborator:

- 3.1 values and integrates reflection to grow as a professional;
 - 3.2 promotes communication and collaboration with colleagues, families, and community leaders;
 - 3.3 seeks relationships with families and students to support student learning; and
 - 3.4 initiates change that benefits students and their families.
4. Education candidates will demonstrate respect for diversity through responsive teaching and learning that values individual differences.

The responsive educator:

- 4.1 understands and responds appropriately to issues of diversity
- 4.2 acknowledges social and cultural contexts to create effective teaching and learning environments;
- 4.3 adapts instruction to the learner's knowledge, ability, and background experience; and
- 4.4 identifies resources for specialized services when needed.

School of Education Dispositions

NCATE defines dispositions as “the values, commitments and professional ethics that influence behaviors toward students, families, colleagues, and communities and affect student learning, motivation, and development as well as the educator’s own professional growth. “ (Professional Standards, p. 53) There is significant value in focusing attention on qualities that make an effective teacher.

- 1. Understands and Respects Self
 - 1.1 Understands and respects that s (he) may be different from others
 - 1.2 Embraces an openness to change (adaptability, flexibility)
 - 1.3 Exhibits curiosity
 - 1.4 Engages in reflection
- 2. Understands and Respects Others
 - 2.1 Understands, respects, and responds appropriately to diversity in a variety of settings
 - 2.2 Exhibits empathy
 - 2.3 Commits to fairness and honesty
 - 2.4 Listens respectfully to other points of view
- 3. Understands and Respects Professional Communities
 - 3.1 Commits to professional behavior in university and school cultures
 - 3.2 Practices informed decision-making in university and school cultures
 - 3.3 Communicates and collaborates in university and school cultures
 - 3.4 Accepts academic rigor (willingness to work/ high expectations)
 - 3.5 Affects change with courage and confidence