

EDIT 562 – Teaching with Databases

(1 credit hour)

* Coding in **bold** reflects ISTE NETS Standards for all teachers.

1. Course Description

This one credit hour course is designed to assist students in exploring and developing expertise with the various aspects of databases as well as to model the ways in which databases can be integrated into the teaching/learning process. The course will focus on strategies for searching, sorting, creating, and communicating with information, much of which is structured by a variety of on and off-line databases.

2. Methodology

The course is structured around class projects, discussions and activities, and participation in a series of model lessons designed to reflect strategies for the integration of telecommunications with the teaching/learning process. Using this collection of activities, the methodology of the course seeks to build clear bridges between technology know how and classroom practice.

3. Objectives

The following objectives have been established for the course:

1. Students will develop comprehensive understanding of the mechanics associated with using a variety of databases to construct databases; **I-A, I-B**
2. Students will develop comprehensive understanding of the mechanics associated with searching databases including creating search strategies; **I-A, I-B**
3. Students will be able to use database tools to support their own learning and their professional development; **I-B, V-A, V-B, V-C, V-D**
4. Students will become familiar with curricular and instructional models related to using databases to promote student learning; and **II-A, II-B, II-C, II-C, II-D, III-A, III-B, III-C, III-D, VI-A, VI-B, VI-C, VI-D, VI-E**
5. Students will design one lesson plan for their grade and/or subject matter interest that incorporates databases as part of the learning activity. **II-A, II-C, IV-A, IV-B, IV-C, VI-A, VI-B, VI-C, VI-D, VI-E**

4. Texts and Materials

1. Students need to obtain and read:
 - a.) Norton and Sprague's *Tools for Teaching* –chapter on databases
2. Students are expected to obtain and bring to class appropriate materials and supplies to include 3 ½ “ disks and note taking materials.
3. Students must have an email account and regular, systematic, easy access to both telecommunications and a computer.

5. Course Requirements

1. Attendance in class is mandatory, as discussions, lectures, and hands-on activities are important parts of the course.
2. Each student is expected to complete all readings and participate in all discussions.
3. Each student is expected to participate in and complete all classroom projects.
4. All written assignments must be completed on a word processor.

6. Course Assignments

1. Portfolio (10 points): Throughout the certificate program, students will be required to create and continually revise a professional portfolio. This portfolio should not be a collection of what the student has done, but rather a reflection of what they have learned. A section will be added to the portfolio reflecting student learning related to databases and the teaching/learning process. **Performance-based outcome for objective 3.**
2. Database Lesson Plan and Essay (30 points): Students will create a lesson plan that includes some aspect or aspects of databases as part of the overall design. In addition, students will write an essay to accompany their lesson plan that supports the quality of the design of their plan. A format for the lesson plan and essay will be provided to students in class. **Performance-based outcome for objectives 1,2, 4 & 5.**
3. Class Participation (10 points): The class depends heavily on class participation and completion of in class activities. Points will be awarded for participation and completion of these activities.

7. Schedule of Class Topics

| Class | Class Topics | Weekly Assignments |
|------------|---|--|
| Week One | Introduction to Syllabus What is a database; how are databases organized A Trip to the Rainforest Brainstorm lesson ideas | Read 1 st half of Norton & Sprague chapter on databases |
| Week Two | Activity/Discussion on reading - A Concept Map Donner Party Database Activity – A Scientific Conference/Paper Analyze Database activity Brainstorm lesson ideas | Finish Norton & Sprague chapter on databases |
| Week Three | Using Census Data to Make Sense of History Write and Essay on the Causes of the Civil War – | Work on lesson plan, essay, and portfolio |

| | | |
|-----------|--|--|
| | based on Census Data Find two interesting databases on-line Analyze Database Lesson Brainstorm lesson ideas | |
| Week Four | Create and Use a Classroom Database – Write and solve a series of mysteries Analyze Database Lesson Brainstorm lesson ideas | Finish lesson plan, essay, and portfolio |
| Week Five | Plan a menu for a weekend retreat – food groups and calories Publish the menu with calories and food groups Analyze Database Share portfolios and lesson plans Portfolio Due Lesson Plan and Essay on Databases Due | |

8. Evaluation

Since this is a graduate level course, high quality work is expected on all assignments and in class. Points for all graded assignments (see section 6) 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.

When assignments are presented on the designated due date, class participants and the instructor will complete an assessment of the assignment using the rubric created in class. Class participants' ratings on the rubric will be averaged. Then the class participants' average will be averaged with the instructor's ratings on the rubric to compute a final point value for assignments. In this way, the development of the rubric will inform the final completion of the assignments as well as serve as the instrument for assessment and determination of points awarded.