



Course SCE 5308 (501) **Research Design and Methodology for Science Educators**
Professor Cynthia E. Ledbetter, Ph.D.
Term Spring 2008
Meetings Thursdays from 5:30PM until 8:30PM

Professor's Contact Information

Office Phone	972-883-2496
Office Location	FN3.308
Email Address	ledbetter@utdallas.edu or ledbeter@utdallas.edu
Office Hours	Physical office hours are Thursdays from 1:00 PM until 5:00 PM and by appointment; however, you may contact the instructor(s) via phone at the number listed above. Voice mail messages are usually retrieved on a daily basis, but responses may take up to a week depending on travel schedules. Email is generally answered within 48 hours.
Other Information	<i>Note that, for security reasons, UTD personnel will send all official email correspondence only to your UTD email address. UTD will provide a Network ID (netid) linked to an email account. You may forward your UTD email to other personal or business email accounts. See http://netid.utdallas.edu. It is your responsibility to check for messages and to ensure that your profile is accurate and complete!</i>

General Course Information

Pre-requisites, Co-requisites, & other restrictions	If you have any concerns about your readiness for this course, please discuss issues with your advisor. 1. Students <i>must</i> be eligible to take graduate courses at The University of Texas at Dallas. 2. Students <i>must</i> have completed successfully (grade of B or better) the pre-requisite course, SCE 5305, <i>Evaluating Research in Science Education</i> , and be able to continue meeting its pre-requisites.
Course Description	SCE 5308 is a required core course for the <i>Master of Arts in Teaching – Science Education</i> (MAT-SE) degree program offered by the Science/Mathematics Education Department (SME) at The University of Texas at Dallas (UT Dallas). Students earn 3 semester credit hours upon successful completion. SCE 5305, <i>Evaluating Research in Science Education</i> , is a re-requisite for this course. This course is a pre-requisite for SCE 8398, <i>Science Education Thesis</i> .
Learning Outcomes	The goal of this course is for students to gain practical experience in conducting research in science education. Toward that end, students will be able to: 1. design and execute an independent research plan, 2. report study results in science education research journal form, and 3. defend research conclusions in an electronic presentation to peers.
Required Texts & Materials	Students will produce a research document worthy of publication in a professional science education journal and a formal presentation of the research study through an electronic presentation. Educational Research: Competencies for Analysis and Applications, 8/E Gay, L.R., Mills, G.E., & Airasian, P.W. (ISBN 0-13-118534-9) Prentice Hall http://vig.prenhall.com/catalog/academic/product/0,1144,0131713515,00.html Publication Manual of the American Psychological Association: Fifth Edition American Psychological Association (ISBN 1-55798-790-4) American Psychological Association

<http://www.apa.org/books/4200061.html>

Office 2003 Pro for Windows (requires Win XP or 2000); we will use Word, Excel, and PowerPoint. See <http://www.utdtechstore.com/> to purchase MS Campus Agreement CDs!

Please visit the [UTTC Bookstore](#) for more recommended/useful items.

Assignments & Academic Calendar

See specific dates within the course shell. Each lesson corresponds to each week of class.

Topic	Coursework
01	Course Overview
02	Conducting a Research Study (IRB Form Due)
03	Selecting a Sample and Deciding on Methodology
04	Choosing Instrumentation and Collecting Data
05	Incorporating Naturalistic Methods
06	Analyzing and Interpreting Data
07	Writing a Research Report
08	Solving Common Problems
09	Drawing Conclusions
10	Making Inferences and Supporting Generalizations
11	Presenting Research Reports
12	Reviewing Conference Presentations
13	Publishing Research (Formal Presentation Due)
14	Course Summary (Final Paper Due)
15	Final evaluation of course

Course Policies

Grading (credit) Criteria	<i>Required for course completion (Percentage of final course grade)</i>
	Class Participation (10) Internal Review Board Forms (10) Project Drafts (10) Conference Presentation (15) Research Report Paper (30) Peer Reviews (10) Textbook/Reading Quizzes (10) Discussion Board Postings (05) Final Course Evaluation (00)
	Students seeking the MAT-SE degree must earn a final letter grade of B or better for this course. Grades will be assigned based on the specific scoring procedures and/or completion requirements detailed in the course. This may include surveys, quizzes, discussion board entries, projects, and assignments. All students are expected to participate in all aspects of the course, unless otherwise discussed with the instructor and/or the Science Education program advisor. Generally, the following grade criteria describe indicators considered when assessing individual work and progress in the course. A: Represents outstanding participation in all course activities (including 'attendance' and promptness); all assigned work completed on time, with very high quality in all work produced for the course. B: Represents excellent participation in all course activities (including 'attendance' and promptness); all assigned work completed on time, with consistently high quality in course work. C: Represents good (but average) participation in all course activities; all assigned work completed, with generally good quality overall in course work. F: Represents minimal participation in course activities; serious gaps in assigned work completed, or very low quality in course work.

Make-up Exams	All quizzes must be completed within the week the lesson becomes available unless prior arrangements are made with the instructor.
Extra Credit	None
Late Work	<p>Typically, incomplete grades are not granted for MAT-SE online classes. Any assignments not submitted as required will be counted against a final grade and may result in a failing grade.</p> <p>If you are unable to complete a task on or before the scheduled due date, it is your responsibility to inform the instructor immediately. Incomplete grades may seriously impact your program studies.</p>
Class Attendance	All lessons must be completed within the required timelines. This is your attendance grade.
Classroom Citizenship	This is a professional setting, therefore I expect professional behavior.
Student Conduct and Discipline	<p>The University of Texas System and The University of Texas at Dallas have rules and regulations for the orderly and efficient conduct of their business. It is the responsibility of each student and each student organization to be knowledgeable about the rules and regulations that govern student conduct and activities. General information on student conduct and discipline is contained in the UTD publication, <i>A to Z Guide</i>, which is provided to all registered students each academic year.</p> <p>The University of Texas at Dallas administers student discipline within the procedures of recognized and established due process. Procedures are defined and described in the <i>Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3</i>, and in Title V, Rules on Student Services and Activities of the university's <i>Handbook of Operating Procedures</i>. Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations (SU 1.602, 972/883-6391).</p> <p>A student at the university neither loses the rights nor escapes the responsibilities of citizenship. He or she is expected to obey federal, state, and local laws as well as the Regents' Rules, university regulations, and administrative rules. Students are subject to discipline for violating the standards of conduct whether such conduct takes place on or off campus, or whether civil or criminal penalties are also imposed for such conduct.</p>
Academic Integrity	<p>The faculty expects from its students a high level of responsibility and academic honesty. Because the value of an academic degree depends upon the absolute integrity of the work done by the student for that degree, it is imperative that a student demonstrates a high standard of individual honor in his or her scholastic work.</p> <p>Scholastic dishonesty includes, but is not limited to, statements, acts or omissions related to applications for enrollment or the award of a degree, and/or the submission as one's own work or material that is not one's own. As a general rule, scholastic dishonesty involves one of the following acts: cheating, plagiarism, collusion and/or falsifying academic records. Students suspected of academic dishonesty are subject to disciplinary proceedings.</p> <p>Plagiarism, especially from the web, from portions of papers for other classes, and from any other source is unacceptable and will be dealt with under the university's policy on plagiarism (see general catalog for details). This course will use the resources of turnitin.com, which searches the web for possible plagiarism and is over 90% effective.</p>
Email Use	The University of Texas at Dallas recognizes the value and efficiency of

	<p>communication between faculty/staff and students through electronic mail. At the same time, email raises some issues concerning security and the identity of each individual in an email exchange. The university encourages all official student email correspondence be sent only to a student's U.T. Dallas email address and that faculty and staff consider email from students official only if it originates from a UTD student account. This allows the university to maintain a high degree of confidence in the identity of all individual corresponding and the security of the transmitted information. UTD furnishes each student with a free email account that is to be used in all communication with university personnel. The Department of Information Resources at U.T. Dallas provides a method for students to have their U.T. Dallas mail forwarded to other accounts.</p>
Withdrawal from Class	<p>The administration of this institution has set deadlines for withdrawal of any college-level courses. These dates and times are published in that semester's course catalog. Administration procedures must be followed. It is the student's responsibility to handle withdrawal requirements from any class. In other words, I cannot drop or withdraw any student. You must do the proper paperwork to ensure that you will not receive a final grade of "F" in a course if you choose not to attend the class once you are enrolled.</p>
Student Grievance Procedures	<p>Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's <i>Handbook of Operating Procedures</i>.</p> <p>In attempting to resolve any student grievance regarding grades, evaluations, or other fulfillments of academic responsibility, it is the obligation of the student first to make a serious effort to resolve the matter with the instructor, supervisor, administrator, or committee with whom the grievance originates (hereafter called "the respondent"). Individual faculty members retain primary responsibility for assigning grades and evaluations. If the matter cannot be resolved at that level, the grievance must be submitted in writing to the respondent with a copy of the respondent's School Dean. If the matter is not resolved by the written response provided by the respondent, the student may submit a written appeal to the School Dean. If the grievance is not resolved by the School Dean's decision, the student may make a written appeal to the Dean of Graduate or Undergraduate Education, and the dean will appoint and convene an Academic Appeals Panel. The decision of the Academic Appeals Panel is final. The results of the academic appeals process will be distributed to all involved parties.</p> <p>Copies of these rules and regulations are available to students in the Office of the Dean of Students, where staff members are available to assist students in interpreting the rules and regulations.</p>
Incomplete Grades	<p>As per university policy, incomplete grades will be granted only for work unavoidably missed at the semester's end and only if 70% of the course work has been completed. An incomplete grade must be resolved within eight (8) weeks from the first day of the subsequent long semester. If the required work to complete the course and to remove the incomplete grade is not submitted by the specified deadline, the incomplete grade is changed automatically to a grade of F.</p>
Disability Services	<p>The goal of Disability Services is to provide students with disabilities educational opportunities equal to those of their non-disabled peers. Disability Services is located in room 1.610 in the Student Union. Office hours are Monday and Thursday, 8:30 a.m. to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 a.m. to 5:30 p.m.</p> <p>The contact information for the Office of Disability Services is: The University of Texas at Dallas, SU 22 PO Box 830688 Richardson, Texas 75083-0688 (972) 883-2098 (voice or TTY)</p>

	<p>Essentially, the law requires that colleges and universities make those reasonable adjustments necessary to eliminate discrimination on the basis of disability. For example, it may be necessary to remove classroom prohibitions against tape recorders or animals (in the case of dog guides) for students who are blind. Occasionally an assignment requirement may be substituted (for example, a research paper versus an oral presentation for a student who is hearing impaired). Classes enrolled students with mobility impairments may have to be rescheduled in accessible facilities. The college or university may need to provide special services such as registration, note-taking, or mobility assistance.</p> <p>It is the student's responsibility to notify his or her professors of the need for such an accommodation. Disability Services provides students with letters to present to faculty members to verify that the student has a disability and needs accommodations. Individuals requiring special accommodation should contact the professor after class or during office hours.</p>
<p>Religious Holy Days</p>	<p>The University of Texas at Dallas will excuse a student from class or other required activities for the travel to and observance of a religious holy day for a religion whose places of worship are exempt from property tax under Section 11.20, Tax Code, Texas Code Annotated.</p> <p>The student is encouraged to notify the instructor or activity sponsor as soon as possible regarding the absence, preferably in advance of the assignment. The student, so excused, will be allowed to take the exam or complete the assignment within a reasonable time after the absence: a period equal to the length of the absence, up to a maximum of one week. A student who notifies the instructor and completes any missed exam or assignment may not be penalized for the absence. A student who fails to complete the exam or assignment within the prescribed period may receive a failing grade for that exam or assignment.</p> <p>If a student or an instructor disagrees about the nature of the absence [i.e., for the purpose of observing a religious holy day] or if there is similar disagreement about whether the student has been given a reasonable time to complete any missed assignments or examinations, either the student or the instructor may request a ruling from the chief executive officer of the institution, or his or her designee. The chief executive officer or designee must take into account the legislative intent of TEC 51.911(b), and the student and instructor will abide by the decision of the chief executive officer or designee.</p>
<p>Off-Campus Instruction and Course Activities</p>	<p>Off-campus, out-of-state, and foreign instruction and activities are subject to state law and University policies and procedures regarding travel and risk-related activities. Information regarding these rules and regulations may be found at http://www.utdallas.edu/BusinessAffairs/Travel_Risk_Activities.htm. Additional information is available from the office of the school dean.</p>

These descriptions and timelines are subject to change at the discretion of the Professor.