

SMED 5301 - Science, Mathematics & Society

Summer 2016



An energy efficient home without heating or cooling - Somalia (photo by H. Montgomery)

Instructor: Homer Montgomery, Ph.D.

Professor's Contact Information

Office Phone: 972.883.2480 (only checked occasionally)

Cell Phone: a text message is welcome any time (my cell phone number will be posted on eLearning).

Office: FN 3.308H

Email: mont@utdallas.edu

Office Hours: by appointment. Meeting times are highly flexible whenever I am on campus.

General Course Information

Course Description

As an educated populous we must grasp the context of the information that makes up current events. This context comes not only from what happened and was reported on the overnight news, but what happened five, ten, or even 1000 years ago. Science Mathematics & Society examines important events in our world society viewed through the lens of science, mathematics, and technology.

As a science and/or mathematics educator, your role in this course is to carefully analyze data, glean understandings that can be shared within your circles of influence, interwoven into your areas of personal expertise, and championed as considerations for future generations. After all, as teachers you “touch the future.” What better way than to enlighten students about the many opportunities and substantial challenges that await the citizenry and leaders of the 21st Century in a world that has grown much smaller, more technologically literate, and highly mobile. This “flat” world will be in dire need of wise leadership based on careful analysis.

SMED 5301 is a core course for the MAT degree at UTD.

Learning Outcomes

The objectives of this course are as follows:

- Appraise and evaluate perceived solutions related to the various issues in terms of validity/invalidity – economic and political, social and moral, and technological and scientific accuracy.
- Judge/formulate/develop plans of action to address (in an appropriate format) critical topics related to subject of discussion.
- Select/compare/contrast each of the critical issues, and relate to other areas of interest within and beyond the purview of your teaching responsibilities.
- Compose valid arguments related to these critical issues, and relate them in varied, evaluative formats.

Required Book

Can a City Be Sustainable? State of the World 2016 (The annual edition of *State of the World* is used each year in this course as it has been since the venerable Professor Fred Fifer began the tradition many years ago.)

http://www.amazon.com/Can-City-Sustainable-State-World/dp/1610917553/ref=sr_1_2?ie=UTF8&qid=1463064907&sr=8-2&keywords=state+of+the+world

Week of	Topic	Weekly Assignments	Due (at midnight)*
Jun 6	Chapters 1-2	Read, consider, and discuss the readings for the week with your peers and professor. This is your discussion grade. Details of your weekly written assignments are outlined below in the Course Policies section.	Jun 12
Jun 13	Chapters 3-5		Jun 19
Jun 20	Chapter 6-8		Jun 26
Jun 27	Chapters 9-10		Jul 3
Jul 4	Chapter 11-12		Jul 10
Jul 11	Chapters 13-15		Jul 17
Jul 18	Chapter 16-19		Jul 24

*Note: The deadlines are for all weekly discussions and assignments.

Course Policies

Assignments

1. Discussion topics are your choice, but your focus must be related to the topics of the week (assigned chapters). Begin each week's discussions on Monday or Tuesday. Quantity will not substitute for quality. Discussion forums for each week time out on Sundays at midnight. The grading rubric is as follows:

Rubric for questions you post. (5 points)

- a. Relevance – must consider a major issue in the chapters of study for that week (1 point)
- b. Timely – must be posted early each week (1 point)
- c. Thought-provoking – must require higher level thought, ≥ 4 on Bloom's Taxonomy (3 points)
([http://www.bloomstaxonomy.org/Blooms Taxonomy questions.pdf](http://www.bloomstaxonomy.org/Blooms%20Taxonomy%20questions.pdf))

Rubric for responses you post. (5 points)

- a. Is the response correct?
- b. Is the response thorough?
- c. Is the response focused - to the point?
- d. Is the response well written?
- e. Is the response original?

Regular and thoughtful participation is required. Your instructor keeps up with the forum, and regularly jumps into the fray.

It is not uncommon for this class to post a few thousand messages (not kidding), and to suggest as many a few hundred sources. Overachievers aside, a minimum of five well-considered posts are expected each week. Posts that appear only at the end of the week will not be considered for full credit, or even for any credit.

*Please restrict social and off-topic discussions to the ungraded forum.

2. Weekly written assignments: 10 points. Even though it is likely that you worked with your peers during the week, your writing assignment must be your work, not a group's work. Each must be an individual, unique product.

The weekly written assignment process is as follows

1. Read the assigned chapters.
2. Write a well-considered, thoroughly edited piece of 400 - 500 words that displays your deep understanding of the topics at hand.

Each written assignment will be graded with the following concepts in mind:

- Well-focused on the chapters of the week.
- Offers logical and creative assessments and, perhaps, novel ideas.
- Important ideas and viewpoints are supported with accurate and detailed references to text and to other sources (reference format is your choice). How to cite an ebook: <http://booksprung.com/how-to-cite-a-kindle-ebook>

Be informed, and be persuasive. Edit and then edit again. Do your best work.

No points will be awarded for:

- cursory work
- work that is not between 400 and 500 words (counting only text, not references)
- statements without citations about ideas or concepts that are not common knowledge
- work that is pasted in from another source. Use no direct quotes.

All assignments (and discussions for that week) time out at midnight on Sundays. Please keep this in mind.

Grades

Grading is based on 140 possible points with an A being $\geq 93\%$, A- is 90-92%, B+ is 88-89%, B is 93-97%, etc.. Thus, A: ≥ 130 ; A-: 126-129; B+: 123-125, etc.)

Late Work

Not accepted without appropriate written excuse (physician's note, etc.)

Class Participation

Mandatory regular online presence

Classroom (Online) Citizenship

Participation expected, e.g., discussions, group work, etc.
Treat each other with respect

Student Conduct and Discipline

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, A to Z Guide, which is provided to all registered students each academic year.

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 Rules and Regulations, Board of Regents, The University of Texas System, Part 1, Chapter VI, Section 3, and in Title V, Rules on Student Services and Activities of the university's Handbook of Operating Procedures. 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).

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.

Academic Integrity

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 demonstrate a high standard of individual honor in his or her scholastic work.

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.

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.

Email Use

The University of Texas at Dallas recognizes the value and efficiency of 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 correspondence 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.

Withdrawal from Class

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.

Student Grievance Procedures

Procedures for student grievances are found in Title V, Rules on Student Services and Activities, of the university's Handbook of Operating Procedures.

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. 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.

Incomplete Grades

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.

Disability Services

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 to 6:30 p.m.; Tuesday and Wednesday, 8:30 a.m. to 7:30 p.m.; and Friday, 8:30 to 5:30 p.m.

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)

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 with 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.

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.

Religious Holy Days

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.

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.

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.

Off-Campus Instruction and Course Activities

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.

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