Fundamental Measurements and Applications Lecture and Laboratory
Course ENV*K265, Course Number 30916, 30917
Meeting Day and Time: Thursday 5:00 – 9:20, Room B210, B212
Course Instructor: Meredith Metcalf (Office: Room C202)
Email: meredithmetcalf@yahoo.com or mmetcalf@trcc.commnet.edu
Office Hours: Tuesday and Thursday 11:00 am – 12:00 pm or by appointment

Required Text:

There is NO required text book for this course. All reading and necessary materials will be provided by the instructor. However, each student is required to have a three-ring binder for the provided reading material and a USB-flash drive (1 GB).

Course Description:

This course will familiarize students with environmental analysis, instrumentation, and sampling methods. Students will have hands-on training and experience with various sampling equipment and techniques. Upon completion the students will understand the basic concepts necessary to choose and conduct environmental measurements in different scientific disciplines, be able to utilize computer applications to perform data analysis of laboratory work and field work methods completed, and be able to write laboratory reports.

Tentative Schedule

Week/Date	Topics
Week 1 **August 26th**	Introductions Laboratory Safety, Laboratory Format, Introduction to Excel, Pace Calibration Exercise
Week 2 **September 2nd**	Use of the Library and Proper Researching Techniques
Week 3 **September 9th**	Projects – Students prepare projects further and perform test-runs as needed
Week 4 **September 16th**	UConn Well Field – Slug Tests
Week 5 **September 23rd**	Introduction to GPS and Orienteering
Week 6 **September 30th**	Introduction to GIS and the Use of GIS for Analyzing Water Use/Consumption in the US
Week 7 **October 7th**	Surface Water Quality (turbidity, pH, EC, flow-rate)
Week 8 **October 14th**	Dendrology and Dendrochronology (Plant/Tree Identification)
Week 9 **October 21st**	Surface Water Quality by Rapid Bioassessment (field work required) – WEEKEND EVENT!!!
Week 10 **October 28th**	Soil Chemistry (pH and salinity)

Week 11 **November 4th**	Darcy's Law and the Darcy Column
Week 12 **November 11th**	CO_2, UVA, and UVB
Week 13 **November 18th**	Weather (Temperature and Pressure)
Week 14 **November 25th**	Thanksgiving Recess – NO CLASS
Week 15 **December 2nd**	Energy
Week 16 **December 9th**	Understanding and Identifying Minerals, Understanding and Identifying Igneous, Metamorphic, and Sedimentary Rocks
Week 17 **December 16th**	Semester Summary - Survey

Grading

45% Laboratory Assignments – This course meets once a week. Thus, all laboratory assignments are due the following week at the beginning of class. Any other assignments will be due on the day specified. After this time the assignment will not be accepted and you will receive a zero.

25% - Field Notes
75% - Laboratory Reports

Laboratory Reports: All lab reports will be typed and spell checked. All data tables and figures will be constructed with Microsoft Excel or any other graphing program. All tables and figures will have proper labels. All work must be shown for full credit. Please hand in a hard copy of each lab the following week after it is assigned.

Labs should be set up in the following format (a sample of this format will be provided):

Title
Date
Student Name
Objective/Background – What hypothesis are you going to test and why. This should include definitions that would be unknown to the reader, study site description (may also be placed in methods), and any other necessary information that pertains to the experiment and the reason for testing the hypothesis.
Method – What did you do to test your hypothesis stated in objective.
Results – Should include text explaining results **and** data sheets, graphs, conversions, and calculations. The meaning of the results/findings is reported in the discussion.

Discussion/Conclusions - This section should discuss results and their implications. Questions that are provided in the lab experiment should be answered in this section; questions should NOT be answered in question form, but rather sentence form.
Bibliography – Please cite all text books, journal articles, and websites used to complete your lab report.
Appendix – this section should have a photocopy of the field notes for the laboratory and any other supporting materials not included above.

40% Semester Project – Library research work and presentations are mandatory for a passing grade and time will be provided the first two weeks of the semester. Each student (possibly pairs of students) will be required to present a power point presentation as an introduction to an environmental analysis, instrumentation, and sampling method of their choice AND instruct/teach their fellow students to conduct an experiment that corresponds to the environmental analysis. All students are expected to be in class to give their group presentation AND all students are required to be present for other presentations of fellow classmates. It is your fellow classmate's presentations that you will be writing your weekly lab report and, thus, contributes to your lab report grade. Semester projects will be discussed and determined the first week of the course such that students are able to adequately research and investigate the topic they have chosen and present the project to the class in a timely manner.

15% Attendance and Participation – Regular attendance and class participation is expected of each student.

Grade Scale: There will be no grading on the normal distribution curve.

A	100.00 – 93.50
A-	93.49 – 90.00
B+	89.99 – 87.50
B	87.49 – 84.50
B-	84.49 – 79.50
C+	79.49 – 77.50
C	77.49 – 73.50
C-	72.49 – 69.50
D+	69.49 – 63.50
D	63.49 – 59.50
F	59.49 – 00.00

Course Policies

Field Work: Field work is required for ALL classes. Please dress appropriately. Mandatory field trips will require a written lab report and the lab report will be incorporated into your lab grade.

Electronic Devices (cell phones, MP3 players, etc.): These devices must be turned off when entering the room to maintain a respectful class atmosphere. You will be asked to leave if you disregard this requirement.

Late/Missed Work: All assignments are due on the date specified in class. After this time the assignment will not be accepted and the student will receive a zero.

Add/Drop: The last day to add/drop and obtain partial tuition refund for this course is September 8th, 2010.

Withdrawal: The last day to withdrawal from this course is December 9th, 2010.

Incomplete: An incomplete must be finished within 60 days of the last day of the Fall 2010 Semester.

Academic Conduct: It is expected that each student will turn in only his or her own work. Violations of the Student Code are taken seriously. This includes copying or sharing answering on tests or individual assignments, plagiarism, or having someone other than yourself do your work. Depending on the act, a student could receive an F grade on the test/assignment, an F grade for the course, or could be suspended or expelled.

For Your Knowledge, cheating and plagiarism are defined below:

> Cheating is defined as the giving of assistance to another or the receiving of assistance from another person, another examination paper, other written material, or any source not explicitly permitted by the instructor, is cheating. Thus, you may not look at another's paper or answers; you may not show your paper or answers to another or leave your paper or answers around for others to look at; and, you may not verbally read or reveal your answers to another. It is also cheating to have access, without the instructor's approval, to examination, quiz, or test questions prior to the administration of the examination, quiz, or test.
>
> Plagiarism is the submission or presentation of ideas or work in any form that are not one's own without appropriate acknowledgement of the source(s). Even with the acknowledgement, close paraphrasing can constitute plagiarism. You may quote the work of others if properly referenced.

Special Needs: Please inform me as soon as possible if you require any accommodations in addition to those provided here.