## Spring 2011 BIOL/ CHEM/ PHYS 4700

## **Research Methods for Secondary Science Instruction**

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**Hours**: T 11-12:30; R 3-4:30 **Hours**: M 8-9, W 8-9 and 12:30-1:30; F **Hours**: M-F 10-10:50

10-11

**Prerequisites** Completion of freshman and sophomore science courses required for certification and consent of dep

**Text** Michael Marder, *Research Methods for Science* (Cambridge UP, New York, 2011)

Materials Labnote book (with carbonless copying feature)

Scientific calculator

**Course Objectives** Pose scientific questions and create experiments to answer these questions

Design experiments to reduce systematic and random errors

Use statistics to interpret experimental results

Use probes and computers to gather and analyze data

Treat human subjects in an ethical fashion

Apply safe laboratory procedures

Create mathematical models of scientific phenomena

Find and read articles in scientific literature

Write scientific papers Review scientific papers

Give oral presentations of scientific work

Attendance Class and lab attendance is mandatory for success in this course. Each unexcused absence after the f

attendance portion of your grade being reduced by 10%.

Course Schedule A detailed listing of course topics, assignments and due dates may be found here.

**Grading** Attendance 10%

Inquiry I 15% Inquiry II 20% Inquiry III 15% Inquiry IV 25% Homework 15%

UNT is on record as being committed to both the spirit and letter of federal equal opportunity legislation; reference Public Law 92-112 - The Rehabilitation Act of 1973 as amended. With the passage of new federal legislation entitled Americans with Disabilities Act (ADA), pursuant to section 504 of the Rehabilitation Act, there is renewed focus on providing this population with the same opportunities enjoyed by all citizens.

UNT's policy on Academic Dishonesty can be found at: <a href="http://www.vpaa.unt.edu/academic-integrity.htm">http://www.vpaa.unt.edu/academic-integrity.htm</a>; Drop information is available in the schedule of classes at: <a href="http://essc.unt.edu/registrar/schedule/scheduleclass.html">http://essc.unt.edu/registrar/schedule/scheduleclass.html</a>

The Student Evaluation of Teaching Effectiveness (SETE) is a requirement for all organized classes at UNT. This short survey will be made available at the <u>end of the semester and will remain open through the week of finals</u>, providing you a chance to comment on how this class is taught.